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United States
Department
of Agriculture

Forest Service

Pacific
Northwest
Region

1990

Appendix J
Final Environmental Impact Statement

Land and Resource Management Plan

Mt. Hood National Forest

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Acronyms and Abbreviations Used In This Document

AMP	Allotment Management Plan
AMS	Analysis of the Management Situation
AQRV	Air Quality Related Value
ARP	Aggregate Recovery Percent
ASQ	Allowable Sale Quantity
ATV	All Terrain Vehicle
AUM	Animal Unit Month
BF	Board Foot
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
BPA	Bonneville Power Administration
BTU	British Thermal Unit
CEQ	Council on Environmental Quality
CF	Cubic Feet
CFL	Commercial Forest Land
CFR	Code of Federal Regulations
CMAI	Culmination of Mean Annual Increment
CRGNSA	Columbia River Gorge National Scenic Area
CRITFC	Columbia River Inter-tribal Fish Commission
DBH	Diameter at Breast Height
DEIS	Draft EIS
DEQ	Department of Environmental Quality (Oregon)
DFSIM	Douglas Fir Growth and Yield Simulator
DP-DFSIM	Dynamic Programing version oDouglas Fir Growth and Yield Simulator
EA	Environmental Analysis
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEIS	Final EIS
FERC	Federal Energy Regulatory Commission
FMAZ	Fire Management Analysis Zone
FONSI	Finding Of No Significant Impact
FORPLAN	Forest Planning Model
FPFO	Forestry Program for Oregon
FS	Forest Service
FSH	Forest Service Handbook
FSM	Forest Service Manual
FY	Fiscal Year
GIS	Geographic Information System
HCI	Habitat Capability Index
ICO	Issues, concerns, and Opportunities
ID	Interdisciplinary
IDT	Interdisciplinary Team
IMPLAN	Input/Output Model
KGRA	Known Geothermal Resource Area
KV	Knutson-Vandenburg
LOD	Large Organic Debris
LRMP	Land and Resource Management Plan
LTI	Legal Trout Index
LTSY	Long Term Sustained Yield
LTSYC	Long Term Sustained Yield Capacity
M	Thousand
MA	Management Area
MAUM	Thousand Animal Unit Month
MBF	Thousand Board Feet
MCF	Thousand Cubic Feet
MIS	Management Indicator Species
MM	Million
MMBF	Million Board Feet
MMCF	Million Cubic Feet
MMRs	Minimum Management Requirements
MOM	Mature and OverMature
MCU	Memorandum of Understanding
MR	Management Requirement
MRVD	Thousand Recreation Visitor Days
MTHNF	Mt. Hood National Forest
MWFUD	Thousand Wildlife/Fish User Day
NA	No Action
NC	No Change
NDF	Nondeclining Flow
NEPA	National Environmental Policy Act
NF	National Forest
NFMA	National Forest Management Act
NPB	Net Public Benefits
ODFW	Oregon Department of Fish and Wildlife
ORC	Oregon Rivers Council
ORV	Off Road Vehicle
PAOT	Persons at One Time
PCNST	Pacific Crest National Scenic Trail
PL	Public Law
PM10	Particulate Matter less than 10 microns in size
PNV	Present Net Value
PNW	Pacific Northwest
PRIA	Public Rangelands Improvement Act
R6	Region 6 (Pacific Northwest Region,USDA Forest Service)
RAREII	Roadless Area Review and Evaluation II
RIM	Recreation Information Management
RM	Roaded Modified
RN	Roaded Natural
RNA	Research Natural Area
ROD	Record of Decision
ROS	Recreation Opportunity Spectrum
RPA	Forest and Rangeland Renewable Resources Planning Act of 1974
RVD	Recreation Visitor Day
S&G	Standard and Guideline
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SEIS	Supplement to the EIS for an Amendment to the Pacific Northwest Regional Guide, Spotted Owl Guidelines.
SHCI	Smolt Habitat Capability Index
SHPO	State Historical Preservation Officer (Office)
SIA	Special Interest Area
SIC	Standard Industrial Classification
SMU	Streamside Management Unit
SOHA	Spotted Owl Habitat Area
SPM	Semiprimitive, Motorized
SPNM	Semiprimitive, Nonmotorized
SRI	Soil Resource Inventory
T&E	Threatened and Endangered
TSI	Timber Stand Improvement
TSP	Total Suspended Particulates
TSPQ	Timber Sale Program Quantity
USF&W	United States Fish & Wildlife Service
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USGS	United States Geological Survey
VAC	Visual Absorption Capacity
VMS	Visual Management System
VQL	Visual Quality Level
VQO	Visual Quality Objective
WFUD	Wildlife & Fish User Day
WRS	Wilderness Resource Spectrum
WSR	Wild and Scenic River

Appendix J
Response to Public Comment

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Introduction

Appendix J - Response to Public Comments

Introduction

This appendix documents the effort made by the Mt. Hood National Forest to consult the public during the review of its Proposed Forest Plan and Draft Environmental Impact Statement. During the public comment period the Forest received approximately 4,800 documents with 80,000 comments.

The appendix contains four sections. Section I is a summary of the public participation activities conducted during the review period. Section II contains a list of the commentators arranged by organizations, business respondents, agencies and individuals. Section III lists the substantive comments with the Forest Service responses. Section IV of the appendix contains a reproduction of letters from elected officials, Native American tribal governments, Federal, State, and local government agencies.

Summary of Public Participation

Availability of Announcements and News Releases

A news release, Forest Plan Report, paid advertisements, posters, listings in local libraries, interagency dialogue and meetings were held in local communities during the months of December 1987 and January 1988 by the Mt. Hood National Forest.

Federal Register Notice

The draft EIS and Proposed Forest Plan documents were released on January 15, 1988 for public review. The Federal Register Notice was printed on January 22, 1988. The original closing date for responses to both documents was April 15, 1988. This date was extended to May 31, 1988.

Distribution of Documents

Approximately 1,500 documents were printed. Approximately 1,000 of the documents were distributed to the public. Most of those on the mailing list received the entire document, while some requested only the Reviewer's Guide and map packet.

Public Meetings

Eight public meetings were held. These meetings were held:

- January 26, 1988 at the Rippling River Resort in Hoodland, Oregon
- January 27, 1988 at the Estacada Ranger District in Estacada, Oregon
- February 1, 1988 at the Corbett Christian Church in Corbett, Oregon
- February 2, 1988 at the Waucoma Center National Scenic Area Office in Hood River, Oregon
- February 3, 1988 at the Legion Hall in Maupin, Oregon
- February 4, 1988 at the Portage Inn in The Dalles, Oregon
- February 19, 1988 at the Mt. Hood National Forest Supervisor's Office in Gresham, Oregon
- March 3, 1988 at the World Forestry Center in Portland, Oregon

Forest Plan Presentations to Organizations/Individuals

Seventy-six presentations were made to interested parties as described in detail in the following list.

Date	Name	Name of Organization
12/28/87	Mike Salsgiver	Senator Mark Hatfield's Staff
12/28/87	Laura Fetuuaho	Senator Bob Packwood's Staff
12/28/87	L. Johnson	Rep. Bob Smith's Staff
12/28/87	Chris Pierce	Les AusCoin's Staff
12/29/87	Merrie Buel	Rep. Ron Wyden's Staff
12/29/87	Phyliss Shoemake	Rep. Denny Smith's Staff
12/29/87	Rep. Bob Smith	U.S. Congressman (Oregon)
01/05/88	Bob Warren	Rep. Pete Defazio's Staff
01/06/88		Clackamas County Commissioners
01/07/88		National Wildlife Federation
01/07/88		Isaac Walton League
01/13/88		Northwest Forestry Association
01/13/88		Association of Oregon Loggers
01/13/88		Mountain Fir Lumber Company
01/26/88		Hoodland Chamber of Commerce
02/01/88	Keith Pietrie	Northwest Ski Association
02/02/88		Hoodland Chamber of Commerce
02/03/88		Portland Anglers Club
02/03/88		Native Plant Society
02/03/88		Oregon State Agencies
02/05/88		Columbia River Inter-tribal Fish Commission
02/05/88		Oregon Trout Association
02/05/88		Northwest Power Planning Comm.
02/05/88		Northwest Steelheaders Assoc.
02/10/88		Hood River County Commissioners
02/11/88		Sierra Club
02/12/88		Oregon Equestrian Trails
02/16/88		The Dalles Lion's Club
02/17/88		Estacada Chamber of Commerce
02/19/88		Mt. Hood Timber Purchasers
02/23/88		Estacada City Council
03/03/88		Alpinees
03/15/88		The Dalles Nordic Club
03/15/88	Rick George	The Oregon Rivers Council
03/15/88		The Dalles Regional Development Council
03/15/88		Wasco County Regional Development Council
03/15/88		The Dalles Chamber of Commerce
03/29/88		Multnomah County Commissioners
03/30/88	Richard Pfilf	Forest Supervisor (Retired)
04/04/88	Mark Rasmussen	Timber Data Company
04/10/88	Keith Pietrie	Northwest Ski Association

04/13/88		Hood River Planning Commission
04/15/88	Philo Gregg	Northwest Forestry Association
04/19/88	Keith Pietrie	Northwest Ski Association
04/20/88	Scott Horgren	Mt. Hood Timber Purchasers
05/02/88	Brian Collins	
05/03/88	Philo Gregg	Northwest Forestry Association
05/04/88		Parkdale Lions Club
05/05/88	Bob Calkins	Multnomah County Planning
05/10/88	Bob Bourhill	Oregon State Forestry
05/10/88	Howard Rondthaler	USDA-FS (Retired)
05/10/88	Sheldon Rich	The Dalles Electric Company
05/11/88	Francis Price Cook	Audobon Society
05/11/88	Ray Davis	
05/12/88	Bruce Niss	Bull Run Action Committee
05/12/88	Randell C. Hybertsen	
05/13/88	Norm Johnson	
05/14/88	Howard Rondthaler	USDA-FS (Retired)
05/17/88	Bob Powne	
05/18/88	Mark Rasmussen	Northwest Forestry Association
05/24/88	D. Dollington	
05/27/88	Chris Adam	
05/28/88	Alex Kirnak	
05/31/88	Bob Freimark	Wilderness Society
06/01/88	Alex Kirnak	
06/07/88	David Butts	Northwest Ski Association
06/08/88	Peter Gillens	United Press International
06/08/88		Portland General Electric
06/08/88	Ralph Saperstein	Mt. Hood Timber Alliance
06/21/88	Hance Henry	Senator Bob Packwood's Staff
06/22/88	Dave Butts	Northwest Ski Industry
06/27/88	Katherine Jess	Columbia Gorge National Scenic Area
06/30/88	Dave Wilcove	Wilderness Society
07/18/88	Jeff Fletcher	Youth Conservation Corp
07/21/88	Philo Gregg	Northwest Forestry Association
07/21/88	Sam Donaldson	Mt. Hood Alliance

Summary of the Comments Received

General Geographical Location of Commentators

Most of the comments came from Oregon and adjacent states.

Location	Number of Respondents
No Address	114
Alaska	1
Alabama	1
Arizona	2
California	65
Colorado	2
Connecticut	1
Florida	9
Iowa	8
Idaho	11
Illinois	10
Indiana	3
Kansas	1
Kentucky	1
Maryland	1
Michigan	10
Minnesota	2
Missouri	5
Mississippi	1
Montana	9
North Carolina	2
North Dakota	5
New Jersey	1
New York	6
Ohio	1
Oklahoma	1
Oregon	4077
Pennsylvania	7
South Carolina	1
South Dakota	1
Tennessee	19
Texas	4
Utah	1
Virginia	2
Washington	426
Capital	
Washington, DC	1
Nation(s)	
United Kingdom	1

Summary of Analysis

Who Responded

The Mt. Hood National Forest received 4,813 responses to the DEIS and Proposed Forest Management Plan (as of October 1988). The responses were separated into nineteen categories according to group affiliation.

Who Responded by Group Affiliation	Number of Responses
Individuals/Families	4625
Timber	40
Businesses/Business Groups	38
Conservationists/Environmentalists	25
Riding/Skiing/Hiking Interests	12
Professional Societies	8
Federal Agencies	7
City/Municipal Government	7
Associations/Unions	14
County Agncies	6
Hunting/Sports Groups	5
County Elected Officials	4
Academia	4
State Elected Officials	3
City Elected Officials	2
Indian Tribal Councils	2
Civic Groups	2
Motorized Recreation Interests	1
Other Groups	8
Total Number of Responses	**4813**

Respondents

The total number of signatures per document gives us an indication of how many people were actually involved in the response process.

A total of 4,813 documents were received. One hundred fifty-five of the documents contained more than one signature and 260 were unsigned. Most of the unsigned documents contained the respondent's name and address but no formal signature. This may have been due in part to the lack of a clearly defined signature box on some of the preprinted response forms.

Number of Respondents	Number of Responses
1 Signature	4398
2 Signatures	126
3 Signatures	12
4 Signatures	2
5 Signatures	2
6 Signatures	1
7 Signatures	2
8 Signatures	1
10 Signatures	2
11 Signatures	1
13 Signatures	1
16 Signatures	1
18 Signatures	1
20 Signatures	1
24 Signatures	1
66 Signatures	1
Unsigned	260
Total Number of Signatures	**4920**
Total Number of Unsigned Responses	**260**
Total Number of People Involved in Response Process	**5180**

NOTE: Some respondents sent in more than one response. The responses were later combined, reducing the total number of people involved in the process.

Form of Response

The public response to the DEIS included original letters and cards, form letters, preprinted response forms, coupons, petitions, and resolutions. The majority of the responses received were on preprinted forms prepared by the Mt. Hood Alliance (a coalition of companies that rely on the Mt. Hood N.F. for raw material.) Personal letters made up the second largest group of responses, followed by form letters from various groups and businesses.

All responses were categorized and coded according to the type of document it was (personal letters, form letters, petitions, etc.) Form letters were grouped by type and each type was given its own code number. This was done to facilitate the coding and data entry of similar responses.

The value in recording the different types of response in separate catergories is that the data can be used to gauge the level or intensity of public interest in an issue. The use of form letters, especially those that are typeset and printed, usually indicates that organized groups such as the timber industries are interested in the issue and have requested their employees to respond using their form letters. A large number of form letters may indicate that people are interested in an issue but may not have been aroused enough by the issue to warrant writing a personal letter. Form letters may have allowed people to participate who were not comfortable with or able to write letters responding to issues that concern them.

Response to Public Comments

Form of Response	Number Received
Mt. Hood Alliance Response Form	3199
Original Letters/Cards	1167
Form Letters	236
Forest Service Response Form	165
National Forest Usage Reply	33
Resolution	11
Petition	2
Total Number of Responses	4813

Subject Summary

We received a total of 78,508 comments. Most of the comments included resource management concerns. We called this part of the comment the subject. The subject comments are summarized as follows.

There were 46 general subject headings and over 300 subheadings. The following is a summary of the public's concern about the resource management on the Mt. Hood National Forest. Each subject heading shows the number of comments received in that area followed by a brief summary of the concern(s) discussed most often.

The subject list was the direct result of both Forest Service interests and areas of concern that were noted through public response.

Recreation, General (3115 Comments)

The General Recreation code was used when topics did not fall into a specific recreation catagory. It was also used when the topics of budgetary concerns or Winter Olympics were mentioned. The concern that the Winter Olympics might one day come to the Mt. Hood area generated some comments, most of them in favor of the idea.

Recreation, Developed (6037 Comments)

Nearly seventy-five percent of the comments were in support of developed recreation. The need for increasing facilities to accommodate a growing tourist trade was also addressed in the public's response. Other comments focused on specific areas such as campgrounds, skiing, access for the handicapped, and interpretive services.

Recreation, Dispersed (13,264 Comments)

Hunting, fishing and hiking received the most comments in the area of disperse recreation which was usually coupled with comments about scenery, natural areas and trail maintenance. Camping was also frequently discussed.

Visual Management (1,068 Comments)

The public expressed concern about clear cutting or other development visible from popular viewing areas of the forest, particularly the Mt. Hood Loop Highway, the Pacific Crest Trail, and the Larch Mountain/Columbia Gorge area. The next most frequent comment expressed is that a non-timber harvest management objective be implemented in scenic viewsheds.

Wild and Scenic Rivers (2,458 Comments)

The Forest Service originally outlined three rivers for inclusion in the Wild and Scenic River Program. The public suggested 11 additional rivers be considered for the program. This type of designation would require a mandatory buffer zone approximately a quarter mile on each side of the river. This creates three main areas of public concern: reduced timber harvest, access to and through the area, and protection of the environment.

Other Rivers (7 Comments)

This category was used when comments received about rivers were not in support of a specific program or did not pertain to the proposed management plan.

Archeology and History/Cultural Resources (23 Comments)

All the comments in this category were in support of existing areas and wants better protection provided for them

Special Interest Areas (958 Comments)

The primary usage of these areas would be research, education, and recreation. There would be no chargeable timber harvest. The majority of the comments generally approved of the program. Recommendations were made for including specific sites to the program for a variety of reasons including geological interest, botanical interest, historic interest, or scenic interest. The remaining comments neither agreed nor disagreed with preserving some of the areas but did want to limit the amount of land to be removed from timber harvest.

Wilderness (1,036 Comments)

The majority of the comments were in support of preserving wilderness areas for both present and future generations as a recreational and educational resource. Many people believed more areas should be preserved. Other comments were either against new wilderness designations or against the idea of wilderness altogether because they fear it would limit access to people who are physically unable to hike in, to fire fighting crews, and waste timber resources.

Roadless Areas (5,522 Comments)

Over half of the comments in this area were in favor of opening up roadless areas. The reasons given were the same as those opposing wilderness designations, but with a greater emphasis on timber harvest. However, there were almost as many comments that favored no development in roadless areas as those opposing wilderness designation.

Old Growth (5,458 Comments)

The major issue in this area is whether or not old growth timber should be harvested. A large number of the comments were in favor of preserving old growth areas. The reasons given included protection of habitats, ecosystem, recreational, aesthetic and intrinsic values. Support for the harvest of old growth timber is based on the number of jobs it would provide, and the economic benefit to both local and the Federal government.

Multiple Use (1,081 Comments)

Nearly all the comments support the multiple use management practice. There were a few comments against and some that either gave no clear opinion or wanted to see certain uses altered such as less timber harvest/fewer roadless areas.

Wildlife (4,389 Comments)

Wildlife habitat received the most attention in this catergory and was cited as a major issue of concern. Comments included all wildlife from insects to birds, while others were concerned mainly with deer and elk. A number of commentators complained that logging operations are harmful to wildlife. Likewise, there were comments that stated timber harvest enhances habitats. Other issues discussed by commentators were maintaining/improving winter range conditions, species diversity, snag dependent species, visual allocation of wildlife, harassment of wildlife, deer, elk, and management of the Pine-Oak habitat.

Spotted Owls (761 Comments)

Nearly all of the comments dealt with habitat requirements (type and size). Some commentators believed the owls would get along just as well in second growth as in old growth and far too many acres were being set aside per owl. Others defended the current habitat requirements based on recent studies.

Fish (865 Comments)

Support for fish habitat conditions was the biggest issue followed by support for anadromous fish, resident fish, and wild fish. Other comments concerned stocking/hatchery fish, regulations, funding, and staffing of the fisheries program. Most of the comments related these issues to the tourist industry.

Riparian (476 Comments)

The majority of the comments were in support of riparian areas and asked for more protection. The public expressed concern about present management practices in and around these areas. Other comments dealt with rehabilitation of riparian areas, the aquatic index, protection of streams for their riparian value, and key site riparian allocations.

Sensitive, Threatened, And Endangered Species (132 Comments)

Over half of the comments support the need and use of this designation. The other commentators focused on the protection of specific animals such as Bald Eagles, Perigrine Falcons, and others they believed should receive this designation, along with specific plants.

Management Requirements (483 Comments)

Support for increasing protection by MR's generated over three-fourth of the comments in this area. Most of the remaining comments felt the MR restrictions should be changed.

Range, Grazing, Livestock (117 Comments)

Most of the comments opposed or wanted to reduce current management practice on Federal lands because of damages incurred.

Plants/Vegetation (152 Comments)

The majority of the comments received wanted more protection for specific species or for specific areas of the forest and were concerned about management practices in those areas.

Research Natural Areas-Existing (27 Comments), Proposed (47 Comments)

Everyone who commented in this area supported more research. There were no comments in opposition.

Research/Education (58 Comments)

Fifty-three of the comments were in support of more education/research, five comments stated no clear opinion. References were made about the environmental and human health problems and the lack of research in the area of clear cutting rain forests, disposal of nuclear waste products, chemical use, etc.

Timber Management (12,073 Comments)

The issue of harvest levels was the main topic of discussion in this category, and many of the comments favored leaving it the way it is. Another big issue was removal of land from timber harvest (many of the comments dealt with specific areas the public wants protected).

Other Forest Products (12 Comments)

Some respondents in this category suggested commercial production of huckleberries, Christmas trees while others were in favor of other products from the forest but were not specific. Still others want as little commercialization of the National Forest as possible.

Water/Watershed (1,907 Comments)

Most of the concern expressed in this area was for improved water quality and protection of existing watersheds from possible contamination. Over half of the comments in this category specifically noted the Bull Run or the Little Sandy River watersheds.

Soil/Soil Productivity/Site Productivity (319 Comments)

Most people who commented in this area were concerned with erosion, mainly due to logging and road building on steep slopes. Other comments addressed long term productivity, sedimentation, compaction, suitability, fertilization, and monitoring.

Air (61 Comments)

The issue of air quality was expressed as a health and visibility issue. Several of the comments relating air pollution to smoke referred to slash burning as the cause.

Geology (24 Comments)

Most of the comments focused on active landslides mostly referring to logging activities.

Land Ownership/Status (17 Comments)

Discussion of land exchanges generated seven comments, one comment dealt with access to inholdings, and land use comments received three comments. The remaining comments dealt with land ownership/status in general.

Special Land Uses (17 Comments)

The topic of resorts/concessionaires generated public concern in this category. The remaining comments were about recreation sites, utility corridors, outfitters/guide permits, and other uses (special permits and uses).

Energy (15 Comments)

In this category, we received comments concerning hydroelectric projects, geothermal leases, and biomass uses (consuming woody material to generate energy).

Minerals (48 Comments)

The majority of the comments were in opposition to mineral withdrawals. Other comments discussed the locations of mineral deposits.

Transportation System (1,127 Comments)

Nearly three-fourth of the comments discussed planned and potential road building. Some commentators wanted to improve access throughout the forest, while others wanted less because of the potential environmental impact. Most of the comments were generated during the discussion of wilderness or roadless areas. Others expressed concern for existing roads, road maintenance, and funding for roads.

Resource Protection (892 Comments)

The majority of the comments were in support of present protection programs or the public wanting more protection for all natural resources. There were comments from people who believe there is already enough protection and a few wanted less.

Fire (272 Comments)

Most of the comments in this area dealt with issues such as slash disposal and increased fire protection. One proposal mentioned frequently concerning slash disposal was to allow private woodcutters access to the slash. The comments about fire protection referred to the lack of access in roadless areas.

Chemical Use (136 Comments)

Most of the comments were in opposition to the use of chemicals. The comments covered herbicides, pesticides, insecticides, effectiveness of chemical treatments, and suggested alternatives to chemical usage.

Insect And Disease Control (78 Comments)

Nearly all the comments were in support of controlling insects and diseases.

Law Enforcement (52 Comments)

Nearly all the comments referred to law enforcement as a protection of property. Most commentators want more protection in campgrounds and parking lots near trailheads. The remaining comments were concerning marijuana cultivation, recreational incidents, and the current level of investigations.

Economic Considerations (8,049 Comments)

The largest group of comments expressed concern about employment and job security. Most of the commentators support economic considerations as an issue. The second largest issue was the health of the economy as related to timber/foreign markets. Other comments addressed the need for economic diversification in tourism and recreation, and discussed long term benefits over short term benefits of timber harvesting.

Social Considerations (3,331 Comments)

In this category the main topic was community stability which received the majority of the comments. The comments reflect a belief that if the allowable sale quantity of timber is reduced, the number of jobs in the timber industry will be reduced and timber dependent communities will suffer. Other comments dealt with preserving the forest for future generations, spiritual/amenity values of the forest, preserving a way of life, historical use patterns, and population pressures.

Budget (46 Comments)

This category was created for comments dealing with the cost of managing the forest. Most of these comments were in support of the budget. Some comments wanted to see more spent in other areas.

Human Resource Programs (12 Comments)

Nine comments were definitely in favor of the programs, three gave no clear opinion.

Forest Coordination Efforts (56 Comments)

Most of the comments favored coordination efforts between State agencies. Others favored coordination efforts between Federal agencies, County agencies, and within the Forest Service.

Indian Rights (20 Comments)

All the comments in this category were supportive. The comments included gathering rights, hunting/fishing rights, religious freedom. We received comments suggesting the Forest coordinate management activities with tribes.

Planning (1,605 Comments)

More than half of the comments received in this category expressed concern about the accuracy of the data collected, analysis, and overall adequacy of the DEIS/Land and Resource Management Plan. Some believed there should be more information, some of the data was outdated, or that the document was too confusing. Other comments dealt with legal requirements, public involvement (most wanted more). Some people questioned the standards and guidelines used for decision making.

Miscellaneous (805 Comments)

Over 42% of the commentators feel the Forest Service is favoring the timber industry, and 35% feel the Forest Service is favoring environmental groups. Exporting logs received the remaining 23%, disapproving of the practice.

Response to Public Comments

Management decisions published in the Environmental Impact Statement and the Land and Resources Management Plan are based on four factors: (1) the law, (2) technical information, (3) resource capability, and (4) public opinion. The Forest Service consulted the public during the planning process. This information has been incorporated in the decisions made by the Forest Service. Laws, technical information, resource capabilities, and professional judgement, and conflicting public comments make it difficult to fulfill each individual request to maintain or modify decisions in the draft Plan and DEIS.

The public comment was not a vote counting process. However, the decision makers weighed the comments - individually and collectively - and have responded by either:

- modifying alternatives (incuding the proposed actions)
- developing and evaluating new alternatives that address new issues, concerns and opportunities
- supplementary, improving or modifying its analysis
- making factual corrections
- taking no action and explaining why the Forest Service used the rationale, authorities and sources in the draft Plan and DEIS and why the agency's position is maintained in the Land and Resources Management Plan and Final Environmental Impact Statement.

A favorable response was not always possible. A suggested change may be beyond the Forest Service jurisdiction or legal bounds. Suggested changes may be beyond the Forest Plan. Specific suggestions on many topics were too detailed for discussion in the Forest Plan. These comments have been retained so the District Ranger and Forest Supervisor may use these detailed suggestions when planning specific programs and projects.

All substantive comments received on the DEIS and draft Plan (or summaries thereof) are attached in a later section of this appendix. New issues, concerns, and opportunities from these comments, as well as those originally identified in the DEIS are included in Chapter 1 and Appendix A of the FEIS.

Individual comments extracted from all letters received are grouped with a response by the Forest Service by subject area. Every attempt was made to accurately capture all substantive comments and display them. There is a direct tie between the response to public comment and the content of the FEIS and the Forest Plan. All original letters are on file at the Supervisor's Office in Gresham, Oregon.

Section III includes extracted or paraphrased comments from letters with Forest Service responses, and Section IV contains a reproduction of the letters received from government agencies and elected officials. The reader may wish to refer to changes between Draft and Final which are discussed in FEIS Chapter I.

The full text of each letter from government agencies and Native American governments was reproduced in accordance with Forest Service policy. This does not imply lesser importance of letters received from non-governmental individuals and groups. Since the public comment was so voluminous (approximately 4,800 letters), they were summarized as provided for in the National Environmental Policy Act (40 CFR 1503.4).

List of Respondents

LIST OF AGENCY RESPONDENTS

Agencies, businesses, organizations, and individuals who respond to the Draft EIS and Proposed Forest Plan are listed below. For filing purposes, each response was given a response number as it was received.

RESPONSE NUMBER	NAME OF AGENCY
00074	FEDERAL HIGHWAY ADMINISTRATION
00084	FORESTRY AND RANGE SCIENCES LAB
00265	U.S.A.F. REGIONAL CIVIL ENGINEER
00328	MARION COUNTY BOARD OF COMMISSIONERS
00365	PORTLAND CHAMBER OF COMMERCE
00750	OREGON HOUSE OF REPRESENTATIVES
00753	CITY OF PORTLAND
00820	CITY OF ESTACADA
00990	OREGON HOUSE OF REPRESENTATIVES
01030	WASCO COUNTY FARM BUREAU BOARD
01087	HOOD RIVER COUNTY, CHAMBER OF COMMERCE
01887	DEPARTMENT OF ENVIRONMENTAL SERVICE
03071	HOOD RIVER COUNTY BOARD OF COMMISSIONERS
03075	MAUPIN CITY PLANNING COMMISSION AND COUNCIL
03013	CITY OF THE DALLES
03432	WASCO COUNTY COURT
03487	MULTNOMAH COUNTY BOARD OF COMMISSIONERS
03913	PLANNING AND DEVELOPMENT OFFICE
04124	OREGON TRAIL ADVISORY COUNCIL
04267	PORT OF HOOD RIVER
04323	CLACKAMAS COUNTY BOARD OF COMMISSIONERS
04529	OFFICE OF THE GOVERNOR
04566	U.S.D.I., FISH AND WILDLIFE SERVICE
04717	U.S. DEPARTMENT OF THE INTERIOR
04769	PORT OF THE DALLES
04794	WASCO COUNTY COURT
04798	U.S. ENVIRONMENTAL PROTECTION AGENCY (REGION 10)
04882	DEPARTMENT OF ENERGY, BONNEVILLE POWER ADMINISTRATION
04884	CITY OF CASCADE LOCKS

LIST OF ORGANIZATION AND BUSINESS RESPONDENTS

RESPONSE NUMBER	NAME OF BUSINESS/ORGANIZATION
00013	THE AMERICAN ALPINE CLUB
00022	OREGON ENVIRONMENTAL COUNCIL
00023	VIRGINIA FOUR WHEEL DRIVE ASSOCIATION
00027	NATIVE PLANT SOCIETY OF OREGON
00036	WOMEN'S OREGON TRAIL RIDERS
00038	THE EVERGREEN STATE COLLEGE
00040	WAPANITIA HOMEOWNERS ASSOCIATION
00102	RECPRO, INC.
00120	LSP CONSTRUCTORS, INC.
00143	NORTHWEST FORESTRY ASSOCIATION
00164	ASSOCIATION OF NORTHWEST STEELHEADERS
00184	FRIENDS OF THE COLUMBIA GORGE
00205	COLUMBIA RIVER GORGE COMMISSION
00225	NORTHWEST CUTTERS, INC.
00246	MOSS ADAMS, C.P.A.
00319	WASCO ELECTRIC COOPERATIVE, INC.
00323	THE HALTON COMPANY
00325	DEE FOREST PRODUCTS, INC.
00327	WINTER ORGANIZATION OREGON
00329	PINE HOLLOW RECREATION DEVELOPMENT
00368	OREGON CASCADE TIMBER
00386	FRIENDS OF BAGBY
00420	SALMON AND STEELHEAD ANGLERS OF OREGON
00437	ACTION MANUFACTURING
00493	GARY PANKRATZ LOGGING
00529	FURMAN LUMBER, INC.
00552	LAMON LUMBER COMPANY
00637	THE CHEMEKETAN
00645	REISCH LOGGING, INC.
00646	WEST SALEM MACHINERY COMPANY
00695	MCGUIRE BEARING COMPANY
00737	OREGON EQUESTRIAN TRAILS
00741	OREGON EQUESTRIAN TRAILS
00748	TIMBERLINE LODGE
00751	WILKINSON TRUCKING
00807	NORTHERN WASCO COUNTY PEOPLE'S UTILITY DISTRICT
00808	NORTHERN WASCO COUNTY PEOPLE'S UTILITY DISTRICT
00809	NORTHERN WASCO COUNTY PEOPLE'S UTILITY DISTRICT
00823	PACIFIC BUILDING SYSTEMS

00825	NORTHERN WASCO COUNTY PEOPLE'S UTILITY DISTRICT
00863	PACIFIC WOOD PRODUCTS
00881	MOUNTAIN FUR LUMBER CO., INC.
00949	JAMES RIVER CORPORATION
00950	SOUTHERN PACIFIC TRANSPORTATION CO.
00952	TRAILS CLUB OF OREGON
00953	TYGH VALLEY GRADE SCHOOL
00989	FIRST UNITARIAN CHURCH ENVIRONMENTAL STUDY GROUP
00993	JAMES RIVER CORPORATION
00994	LONGVIEW FIBER CO.
01019	DARREL JONES LOGGING
01099	THE DALLES AREA CHAMBER OF COMMERCE
01304	COLUMBIA HELICOPTERS, INC.
01305	NORTHWEST FORESTRY ASSOCIATION
01353	WY'EAST CLIMBERS
01374	HOOD RIVER ELECTRIC COOP.
01440	KAUFMAN'S STREAMBORN FLY SHOP
01562	PACIFIC LUMBER & SHIPPING CO.
01885	SOLSTICE SKI & SPORTS
01908	OREGON BANKERS ASSOCIATION
01910	SKYCRAFT MARBLED DESIGNS
01912	MAUPIN ELEMENTARY SCHOOL DISTRICT #84
01954	OREOGN LOG TRUCKERS ASSOCIATION
02422	NORTH PACIFIC LUMBER CO.
02423	CURTIS FOREST PRODUCTS
02425	HANEL LUMBER CO., INC.
03004	LANE-MILES STANDISH COMPANY
03006	FRANK LUMBER CO., INC.
03031	JAMES RIVER CORPORATION
03034	WESTERN WOOD PRODUCTS ASSOCIATION
03038	LUPINE TRANSPORTATION, INC.
03256	OREGON NORDIC CLUB
03262	MT. HOOD MEADOWS OREGON, LTD.
03262	MT. HOOD RECREATION ASSOCIATION
03411	COLUMBIA RIVER TRUCKING COMPANY, INC.
03426	MT. ST. HELENS CLUB
03435	COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION
03488	AMERICAN PLYWOOD ASSOCIATION
03903	THE NATURE CONSERVANCY
03904	THE OREGON NATURAL HERITAGE DATA BASE
03914	THE LIVE WIRE RIDERS

03915	MULTNOMAH PLYWOOD CORP.
03920	SKI TEK, INC.
03949	DOUTHIT LOGGING, INC.
03970	NATIVE PLANT SOCIETY OF OREGON
03985	UMPQUA VALLEY AUDUBON SOCIETY
04088	THE OREGON RIVERS COUNCIL
04091	E. "VAL" PRENTICE CONTRACTORS, INC.
04095	MITSUBISHI ELECTRIC
04097	OREGON COUNTRY TREE FARM
04132	PAC POW
04147	EAST MULTNOMAH SOIL & WATER CONSERVATION DISTRICT
04150	SOCIETY OF AMERICAN FORESTERS
04148	4-POINT TIMBER CO.
04187	VANPORT MANUFACTURING, INC.
04188	WILLAMETTE VALLEY COMPANY
04196	CONFEDERATED TRIBES OF WARM SPRINGS
04199	ASSOCIATION OF O & C COUNTIES
04201	TEXAS COMMITTEE ON NATURAL RESOURCES
04210	RIVER OAKS FARM
04213	SIERRA CLUB
04214	NATIVE PLANT SOCIETY OF OREGON
04218	ELLINGSON LUMBER CO.
04229	THE OASIS RESORT ON THE DESCHUTES
04233	OBSIDIANS, INC.
04237	GENERAL CHEMICAL
04245	HOOD RIVER CRAG RATS
04252	WOODLAND ARBOREALISTS
04263	THE ELEVENTH COMMANDMENT FELLOWSHIP
04284	COBURN ELECTRIC
04303	ROGER MACHINERY CO., INC.
04307	MT. HOOD CORRIDOR PLANNING ORGANIZATION
04317	LANE COUNTY AUDUBON SOCIETY
04355	PLYWOOD MARKETING ASSOCIATES
04359	NORTHWEST FORESTRY ASSOCIATION
04364	AVISON LUMBER COMPANY
04369	THE DALLES TIRE & AUTO CENTER
04380	NATIVE PLANT SOCIETY OF OREGON
04390	WILDLIFE SOCIETY/OREGON CHAPTER
04498	ANGLERS CLUB OF PORTLAND
04517	NORTHWEST POWER PLANNING COUNCIL
04519	MAZAMAS

04520	FIRST UNITARIAN CHURCH
04536	CITIZENS INTERESTED IN BULL RUN
04550	THE MT. HOOD ALLIANCE
04567	COLUMBIA RIVER PLYWOOD COOPERATIVES
04569	SDS LUMBER COMPANY
04570	FRIENDS OF ENOLA HILL
04653	BALD KNOB LAND & TIMBER COMPANY
04665	WESTERN FOREST INDUSTRIES ASSOCIATION
04666	NORTHWEST FOREST RESOURCE COUNCIL
04672	PORTLAND AREA SKI CLUB COUNCIL
04677	FORT VANCOUVER PLYWOOD CO.
04688	ASSOCIATED OREGON LOGGERS, INC.
04689	ZIP-O-LOG MILLS, INC.
04690	DIAMOND HILL PLYWOOD COMPANY
04699	NATIONAL WILDLIFE FEDERATION
04700	WEYERHAEUSER
04701	THE WILDERNESS SOCIETY
04707	BLUE MOUNTAIN SIERRA CLUB
04709	OREGON HUNTERS ASSOCIATION
04713	COLUMBIA GORGE COALITION
04715	WASHINGTON NATIVE PLANT SOCIETY
04718	MOUNTAIN STATES LEGAL FOUNDATION
04719	NORTHWEST ENVIRONMENTAL DEFENSE CENTER
04761	SDS LUMBER COMPANY
04775	MT. HOOD FOREST STUDY GROUP
04778	AMERICAN RIVERS
04781	ALPINEES C.A.P.
04787	TRIMAC PANEL PRODUCTS, INC.
04800	INDUSTRIAL MARKETING SYSTEMS, INC.
04802	WALDRIN PACIFIC, INC.
04857	TROUT UNLIMITED, COLUMBIA RIVER CHAPTER 095
04858	AMERICAN FISHERIES SOCIETY, OREGON CHAPTER
04859	RUST INTERNATIONAL CORPORATION
04876	NORTHWEST TIMBER ASSOCIATION
04887	ELLISON COMPANY
04897	AUDUBON SOCIETY OF PORTLAND
04914	THE OREGON NORDIC CLUB

LIST OF INDIVIDUAL RESPONDENTS

RESPONSE NUMBER AND NAME	
03605	TIMOTHY ABBE
03632	LA VAN ABEL
04416	GEORGE ACKER
04415	PATRICIA ACKER
02312	EARL D. ACKLEY
02742	IRENE ACKLEY
04736	ROY E. ACKLEY
01560	DIXIE ACRIDGE
02364	DENISE ADAMS
01400	JAMEY ADAMS
03352	JOHN ADAMS
01511	LISA L. ADAMS
02368	MARK ADAMS
00604	NANCY J. ADAMS
03316	R. J. ADAMS
00008	THOMAS C. ADAMS
01190	DOLORES ADAMSON
01191	IRA W. ADAMSON
04067	ELEANOR Y. ADELMAN
01329	NORMAN W. ADKIN
03051	BOB AEGERTER
04355	ALICE M. AGEE
03431	M. E. AGEE
02693	FRANK AGUIRRE
04873	ROSE ALBANESE
02290	W. E. ALBEA
02949	JOAN P. ALBERT
01702	TINA ALBRECHT
00426	VIRGINIA ALBRECHT
00629	WILLIAM J. ALBRECHT
00164	STEVEN ALF
04160	BRENDA SUE ALGER
01278	SUSAN ALLARD
04734	ARLENE ALLEGRE
01072	ANITA ALLEN
03076	CLIFFORD ALLEN
01906	COLLEEN G. ALLEN
02624	HERBERT M. ALLEN
02668	MIKE ALLEN
01127	P.D. ALLEN
00705	RANDY R. ALLEN
02676	RICHARD L. ALLEN
04279	ROGER K. ALLEN
04827	TERRY C. ALLEN
04467	TERRY F. ALLEN
02421	LOIS ALLERS
02770	CARL T. ALLISON
04880	DAVID L. ALLISON
01869	JACK M. ALSUP
03671	HAROLD ALTMAN
04214	EDWARD R. ALVERSON
04844	KEITH AMES
01914	JOE AMICARELLA
01026	JOAN ANDERSEN
04755	MARY JO ANDERSEN
02027	BRUCE ANDERSON
01915	CHAUNCEY W. ANDERSON
04056	CLARENCE & ALMA ANDERSON
04836	DENNIS ANDERSON
04174	ED & BEULAH ANDERSON
00606	JAMES E. ANDERSON
02226	JOYCE I. ANDERSON
01273	KIM ANDERSON
02843	L. A. ANDERSON
01977	LEON M. ANDERSON
01993	LINDA ANDERSON
00004	LISA J. ANDERSON
02897	M. ANDERSON
00597	MARGARET ANDERSON
04726	MIKE ANDERSON
04058	OTTO D. ANDERSON
02592	PAUL ANDERSON
03653	RICK ANDERSON
04057	ROBERTA ANDERSON
04043	ROGNAR ANDERSON
00765	TERRY ANDERSON
01584	WALT ANDERSON
02880	WARREN R. ANDERSON
03655	GRAY ANDREAS
02827	BILL O. ANDREWS
00365	EDWIN F. ANGHILANTE
02138	CAROL L. ANNALA
02142	JOHN ANNALA
00703	GERALD C. ANSELL
00245	WILLIAM L. APGAR
02360	BRIAN H. APPLEGATE
00570	MICHAEL D. AQUINO
02698	ZERITA AQUIRRE
01529	JAMES A. ARCHER
00150	CREED ARCHIBALD
04868	NANCY J. ARKO-RUSSELL
01131	ARVILLA ARMSTRONG
03978	JOE & GAIL ARMSTRONG
02909	RONALD M. ARMSTRONG
01436	JAMES A. ARNESON
00394	CAROL ARNHART
02441	CHERYL L. ARNOLD
01673	ALBERT ARNST
04004	DOUG ARRANT
02917	ROBERT ARTHUR
02918	TAMI ARTHUR
00059	GARDAA ARUBART
01317	JOHN ARUM
02183	KENNETH S. ASHBAUGH
04620	LEE ASHBAUGH
04760	JANET ASHKENAZY
01087	LINDA ASKO
01615	DAN L. ASKTON
04129	BOB ATIYEH
01578	LOLA ATWOOD
01579	MELVIN L. ATWOOD
02204	KAREN AUBERT
02203	LEONARD L. AUBERT
03147	BYRON AUER
03036	BONNIE AUGUSTSON
00431	DAVID L. AUGMUS
01038	ELDON AUSTIN
02407	WAYNE AUTIO
04221	ALEXIS B. AVERY
00402	PAT AVERY
04364	AVISON TIMBER
04673	MARGARET B. AVISON
01343	JANET C. AXFORD
01360	DONALD AYERS
03651	LEE BABCOCK
03369	D. F. BACHMAN
02507	GWEN BACK
02190	LEE ROY BACK
00411	FRANK BACKUS
04236	FRANK BACKUS
03715	JASON BACKUS
03674	JEREMY BACKUS
03576	LEONA BACKUS
00428	DENNIS L. BACON
04722	JIM BAETA
01604	JAMES BAGLEY
02124	RICHARD E. BAGLEY
00045	PETER BAHLS
03941	BARBARA BAILEY
02355	JEANNE E. BAILEY
02619	LISA BAILEY
04329	MICHAEL BAILEY
01367	R. BAILEY
01126	ROBERT BAILEY
02225	TERRY BAILEY
01574	ALLAN A. BAKER
04003	DON BAKER
00096	MICHAEL BAKER
03501	RAY BAKER
03732	RICHARD BAKER
01575	RUTH M. BAKER
00262	TIM BAKER
03507	WILLIAM BAKER
04090	PAUL BAKKE
01187	JOSE BALDERAS
04552	E LEE BALENTINE
00072	JOHN H. BALEY
04122	TERRY BALINTON
03252	FRANK BALL
03374	LLOYD E. BALLER
03818	GLENN A. BALLINGER
03043	HAROLD & ELEANOR BANGS
01868	CHARLES W. BARBER
02541	DAVID BARBER
01708	DONALD W. BARBER
00564	DORMAND O. BARBER
00565	HOLLY BARBER
03270	J. R. BARBER
01528	PAUL A. BARBER
00546	PETE L. BARBER
02062	JANE BARFOOT
04368	JOHN BARGER
03940	ADRIENNE R. BARHYDT
04611	C. H. BARKER
03279	GARY J. BARKER
04714	JILLIAN BARKER
03119	EUGENE BARLEY
03948	EARL & MARGUERITE BARNES
01551	FRIEDA M. BARNES
03758	GARRY BARNES
01155	LARRY BARNES
01722	RICK N. BARNES
00080	DAVID BARNETT
03816	DAVID BARNETT
02814	DEAN BARNETT
00347	EDDIE R. BARNETT
03403	GARY BARNETT
01441	NICOLE J. BARNETT
00081	PEGGY BARNETT
03695	DAVID D. BARNHART
00390	MAYNARD & NITA BARNHART
03481	SARA BARNUM
02049	GAYLE L. BARR
01924	DAVID P. BARRINGER
00770	ROBERT BARROW
00780	WESLEY C. BARROW
04707	JOHN E. BARRY
04894	PETER BARRY
00275	S. PATRICK BARRY
04014	RICHARD BARTEL
03453	JOHN BARTH
01489	THOMAS A. BASEY
04813	GENE BASKIN
02326	BILL R. BASKINS
03702	SUSAN BASKINS
00420	WENDELL BASKINS
01597	DAN E. BASZLER
02653	DONALD R. BATEMAN
01596	IRENE BATEY
04662	PETER BATHS
04910	BENNETT BATTAILE
03277	JEREMY BATTERSBY
02068	MARILYN BATTERSBY
03675	TONY BATTLES
02272	STEPHEN R. BAUCOM
03397	MRS. ROBERT J. BAUER
03396	ROBERT J. BAUER
00061	MARK BAUGH
00066	SUSAN BAUGH
02722	DARRELL A. BAUMGARDEN
04773	WILLIAM H. BAX
02224	GARY BEACHMAN
04466	SUSAN BEACHY
03310	FORREST BEAIL
02406	CLIFFORD BEAM

02409	DOUG E. BEAM
03578	MARK S. BEAM
01732	LYLE D. BEARD
01368	LEWIS BEATTY
00477	CYNTHIA BEATY
02807	DOUGLAS J. BEATY
01476	BETTY BEAUDEY
01792	DORIS BECHSEL
01791	EDWIN J. BECHSEL
00266	DONALD F. BECK
03350	MERLE BECK
03793	ROBERT BECK
03153	KEVIN BECKER
03709	CHRISTOPHER BEEBE
02686	JODY BEEBE
02177	LOYD BEEBE
04651	ABIGAL BEEMAN
01110	DAVID W. BEHENSKY
04107	SUE BEILTE
04396	DOUGLAS BELL
01665	JOHN BELL
03334	PAM BELL
02365	RANDY J. BELL
04677	RICH BELL
04052	RICH BELL
01175	ROBERT BELL
00750	BILL C. BELLAMY
04891	JACK BELLUTTE
00827	MICKEY BELLMAN
01898	PATRICIA M. BELMONT
00890	RICHARD BEMENT
02591	DENNIS BEMIS
02716	W. A. BENEDICT
01713	JACK BENETL
04819	BARBARA BENJAMIN
02207	BETTE BENJAMIN
02794	RANDLE L. BENJAMIN
01454	MARTHA BENN
00205	RICHARD P. BENNER
00170	BERLE B. BENNETT
03907	CRETA B. BENNETT
02391	JAMES M. BENNETT
03669	JIM BENNETT
02858	JOHN BENNETT
01341	JOHN E. BENNETT
01662	LARRY BENNETT
00490	MARY BENNETT
01807	ROLAND E. BENNETT
00535	SCOTT BENNETT
01258	RON BENSHOOF
01020	ARDEN R. BENSON
03392	GARY L. BENTHIN
03241	ANN MARIE BENTLEY
03247	GENE BENTLEY
03568	JOHN T. BENTLEY
00677	TOM BENTLEY
04245	JOHN M. BENTON
02816	WAINE BENTON
01954	JERRY BENTZ
02061	JERRY BENTZ
00453	LANCE V. BENTZ
01803	RON BENTZ
03554	DAVID BENZ
01711	JACK A. BERG
04860	CHERYL A. BERGER
03769	DAVID R. BERGER
04025	MARK BERGER
00177	KATHLEEN BERGGREN
04731	DAVID BERGLAR
03673	J. BERINGER
03988	DAVID BERKE
04582	JUDY BERKOWITZ
03272	BART BERLIN
04768	JODY BERMAN
04481	HAZEN BERNARD
00434	THERESA BERNARD
00973	TROY W. BERRETH
02169	BEVERLY BERRY
01159	DICK BERRY
01262	JENNY BERRY
00624	MIKE BERTRAND
04329	LINDA BESANT
04449	ART BESHEARS
03739	JOHN BESS
03740	VELDA BESS
01712	DALE BESSETT
04113	GARY BETTS
02655	DAN BETZ
00759	KARY BETZ
03644	VINCENT BEYER
01580	RUTH J. BICHSEL
04313	GARY BICKETT
00682	STEVE BICKFORD
00721	JAMES BICKLER, DMD
04364	MRS. JEANINE BIDEN
01592	KENNETH E. BIERLY
00479	EDWARD BILES
00576	EILEEN BILYEU
00577	CARROLL L. BILYEU
04337	SUSAN BINFORD
01482	DOUG BING
02254	ANTON J. BIRKENFELD
02251	LUCILLE BIRKENFELD
03969	JOHN BISCHOFF
00070	BERNICE A. BISHOP
03078	BETH BISHOP
02899	DAN H. BISHOP
00085	DOUGLAS BISHOP
00071	ROBERT BISHOP
00082	TERRI L. BISHOP
01903	LYNNE B. BISSONNETTE
01600	BEN BITTERMAN
01994	DAVID BITTERMAN
01801	JERRY BITTERMAN
01598	SYLVIA BITTERMAN
04690	PATRICK BITZ
03342	RICHARD BJERKE
01482	KEITH B. BJORKMAN
00813	WAYNE BLACH
01709	CARRIE E. BLACK
01585	FLOYD C. BLACK
00556	HAROLD M. BLACK
02523	PAUL BLACK
00473	BILL BLACKBURN
04758	CHELSEA BLACKBURN
04465	MARCIA BLACKFORD
00590	ART BLADES
04012	DENNIS BLAIR
04791	DENNIS BLAIR
01843	WILLIAM L. BLAIR
03020	BRIAN BLAKE
00537	KIP BLAKE
00278	ROBERT & MARIE BLAKE
02764	D. W. BLASEN
01943	JOE BLATNER
01007	DARLENE BLEAKNEY
01006	DOUGLAS BLEAKNEY
04035	BILL BLEDSOE
04379	D. JAMES BLICK
01201	MARK BLIESNER
04382	MARILYN BLOCH
01599	STEVE BLOCHER
01106	CHRIS BLODGETT
02269	DALE W. BLOMBERG
01288	JON BLOODGOOD
02805	DENNIS BLOOM
02292	EARL D. BLOOM
02108	GARY D. BLOOM
02293	SHARON L. BLOOM
03063	R. BLUMENKRON
01870	VINCENT BOEDIGHEIMER
04716	PAUL R. BOEHNER
03381	JAMES BOEKHAFF
03060	ARTHUR BOESCHEN
00838	JOHN BOHLANDER
03057	LARRY & CAROLYN BOLLINGER
00063	CHUCK BOMAN
04099	RICHARD L. BOND
01627	RUTH I. BOND
00826	JAMES B. & KAREN K. BONES
00821	LEROY E. BONNER
01004	CHERYL BOOTH
02159	JACK BOOTH
04145	JEFFREY N. BOOTH
00103	TIMOTHY BOOTH
03645	JAMES BOOTHE
04881	LINDA BOOTHE
04544	CHARLES L. BORDEN
01787	HELEN BORLAND
01786	SAM BORLAND
02149	DAVID L. BORTON
02509	MARVIN O. BORTON
02513	VERONA BORTON
04782	ANDY BORTZ
03510	CATHY BOSCOLE
01248	LARRY D. BOSHART
03532	CLINT BOSWELL
04845	ALAN BOTT
04186	EDWARD M. BOUCHARD
02887	JERRY A. BOUCOCK
03967	PAUL BOUGHMAN
04624	GARY R. BOUNDS
00371	RANDY & JUDY BOWCUTT
00355	MARTIN BOWE
00670	A. J. BOWERS
04087	SUE BOWERS
02191	EDEN BOWIE
02291	ROBERT BOWLIN
04509	GREG BOYCE
04036	MIKE BOYD
04506	PATRICIA BOYDEN
01222	ARTHUR BOYER
02369	ARTHUR D. BOYER
04409	JAMES BOYER
00086	MIKE BOYERS
00967	JAMES W. BOYLE
04078	LEISA BOYTZ
00926	SUE BOZARTH
02759	BEN R. BRACE
02448	MARTY BRADEN
02521	ROSE G. BRADEN
01463	DOUG BRADETICH
01692	DIANA BRADSHAW
00699	WENDELL & BETTY BRADSHAW
00710	ESTHER C. BRADY
04754	LYNN BRADY
01221	FRANK BRAITH
02649	ROBERT BRAMBLETT
00793	KAY BRANCH
01060	AL C. BRAND
01079	ANNE BRAND
04893	RONALD A. BRANDT
01530	RUTH I. BRANDT
02468	LARRY BRANIFT
02520	D. BRANNAN
02965	JOHN BRATLAND
03210	SCOTT BRATT
03844	KURT BRAUCKMILLER
01906	FRANK E. BRAWNER
00615	JACK BRAY
01122	JOHN BRAZIER
01512	C. A. BRAZIL
00921	JACK BREDESON
01373	JOSEPH R. BREIVOGEL
00683	EUGENE L. BREMER
01006	HERMAN BREMER
02695	BRUCE BREWER
03217	DUANE BRIDGE
02822	BARBARA BRIGGS
02821	DON BRIGGS
01011	HOWARD BRIGGS
04830	ROBERT A. BRIGGS
02164	MARY L. BRIGNOS
01184	SCOTT BRINSON
01552	ROBERT G. BRINSTER
04069	ALBERT BRINT
04501	EILEEN BRINTON
00466	PAUL D. BRISCOLL
02232	E.J. BRISLAWN
04459	TOM BRISTOW
01158	ALTHEIA BRITTAIN
01609	EDWARD D. BROADSWORD
02739	CECIL E. BROCK, JR.

00611	JIM BROCK
02375	RICHARD BROCK
03867	GREG BROCKWAY
02198	DONNOVAN R. BROGAN
02199	LARENE BROGAN
00854	CHARLES J. BRONSON
01339	ELMA A. BRONSON
03160	DONALD BROOKE
01065	ARLENE BROOKS
03166	BILL BROOKS
00320	JOHN W. BROOME
01152	MARVIN W. BROU
02866	CORAL L. BROUGHTON
00308	ALBERT L. BROWN
00727	BARBARA K. BROWN
02651	CHARLES R. BROWN
00725	DENNIS BROWN
01544	GROVER W. BROWN
03366	JACK R. BROWN
03087	JIM BROWN
03640	JOHN R. BROWN
00330	JOY R. BROWN
01620	JUANITA L. BROWN
02104	KEITH C. BROWN
02270	KENNETH G. BROWN
01777	MACK BROWN
01819	OGA BROWN
01931	PHILLIP G. BROWN
01230	RICHARD D. BROWN
04699	RICHARD T. BROWN
01681	ROBERT BROWN
00471	ROBERT J. BROWN
04562	ROGER BROWN
02628	THOMAS T. BROWN
04178	SHIRLEY BROWN
01450	WARREN BROWN
00174	CAROLYN BROWNE
04405	JAMES BROWNING
04426	KEN BROWNING
04404	VANITA BROWNING
04390	CHARLES R. BRUCE
03617	MIKE BRUGGER
02740	RONALD G. BRUMBAUGH
03541	ROBERT BRUSCH
00449	CHARLES BRYANT
02308	NOLEN BRYANT
01772	M. P. BRYSON, JR.
00691	MIKE BRYTON
04723	F. BUCHBERGER
02979	MILTON & PAT BUCHHEIT
01300	BILL BUCK
03932	RAY BUCKNER
03705	E. J. BUDE
02003	JOE BUEL, JR
01463	TED BUGAS
00302	CHARLES F. BUHMAN
02545	JEANNE BUKUFELL
02914	DAVID F. BULL
02703	WILLIAM L. BULLACK
04299	ANN BULLETSET
04594	DARRYL BULLINGTON
01235	J. E. BUMGARDNER
01820	WILSON & FRANCES BUMP
01428	DIANE BUNGUM
01442	STEPHEN R. BUNGUM
00671	KEN BUNT
01979	R. BURCHELL
04798	ROBERT S. BURD
04448	BILL BURGE
00625	BILL BURKE
03663	NORM BURKE
03631	ZANE BURKE
03333	JAY BURKERT
00175	RANDAL S. BURKHART
01456	TODD BURKHOLDER
00603	JOHN C. BURLEY
00693	DON BURLINGHAM
04361	KELLY BURNETT
04259	MICHAEL S. BURNETT
04222	R.E. BURNETT
03676	STEVEN LEE BURNHAM
04139	KAREN BURNS
01482	L. R. BURR
04336	MICHAEL BURNS
00633	MICHAEL S. BURNS
01033	ROY BURNS
03430	DOUGLAS BURR
01729	S. E. BURRIER
03781	DELOY L. BURRIL
01658	HARVEY H. BURWELL
01327	DAVID R. BUSE
02936	THELMA BUSHNELL
02612	PEARL E. BUSSEAR
03311	DAVE BUSWELL
03372	CHRIS A. BUTE
02234	KATHY BUTLER
00146	BRENDA BUTTERFIELD
02957	STEVE BUTTERFIELD
00677	T. R. BUTTERFIELD
03625	LACEY BUTTRAM
01935	BETTY LOU BUTZIN
04187	RICHARD BUUCK
00341	DAVID E. BYBEE
04248	HUGH R. BYNUM
03536	MICHAEL G. BYRD
04556	ALLEN BYRD
04270	THOMAS CABLE
03356	JIM CADD
02475	LILLIAN CADY
03915	CLARK CAFFALL
03993	CLARK CAFFALL
03090	B. E. CALDWELL, JR
02165	DAYNE CALDWELL
03924	KAREN CALDWELL
00543	VINCENT C. CALDWELL
04196	LARRY CALICA
03736	STEVE CALIFF
04117	PHILIP J. CALLAHAN
03452	LARRY CALLISTER
00579	CAROL CALLOHAN
04720	T. S. CALLY
00628	KENNETH A. CAMERON
02004	ROBERT CAMERON
00547	SCOTT CAMERON
03295	CATHY CAMPBELL
03962	CATHY CAMPBELL
01059	DICK CAMPBELL
00665	DONALD G. CAMPBELL
01232	FOREST CAMPBELL
01240	JOHN CAMPBELL
00203	LAURA CAMPBELL
03114	LINDA CAMPBELL
02137	LINDA & GARY CAMPBELL
04565	LOIS CAMPBELL
01058	MARCIA CAMPBELL
03254	RICHARD A. CAMPBELL
00271	MR. & MRS. ROBERT CAMPBELL
02779	MRS. WAYNE CAMPBELL
01813	WAYNE CAMPBELL
02297	R. J. CAMPION
02713	DENNIS CANNARILE
00291	ED CANNON
00292	RUSTI CANNON
03572	THOMAS CANSLER
04460	MIKE CANTRELL
02666	TIM CANTRELL
03696	MILES J. CAPLES
01639	EDGAR L. CAPPS
04144	HENRY A. CAPTEIN
04346	JANIS CAPUTO
01864	MELVYN CARDON
03906	HOLLY & AMY L. CARINE
04670	CAROL CARLSON
03127	DIXIE CARLSON
03126	DONALD CARLSON
01212	LARS CARLSON
03409	PRISCILLA CARLSON
04216	DON CARLTON
02357	ROBERT L. CARMAN, JR.
01420	GARY B. CARNES
00821	JAMES CARR
01220	JUAN CARRIZALS
04434	SAM CARRNES
00020	JOHN CARROLL
00871	MICHAEL CARROLL
04135	JAMES CARSNER
01358	ELOISE CARSON
00970	JERRY D. CARSON
00968	PAULA CARSON
02918	CLARK CARTER
01266	RANDY CARTER
00673	STEVE CARTER
04710	DENISE CARTY
00393	JIM CASH
03040	JOHN CASPAR
04319	LILLEBIL CASTELL
03369	VERNON C. CASTILE
02261	ALBERT CASTILLA
02780	JOE M. CASTILLA, JR.
03596	M. F. CASWELL
02160	JAMES A. CATE
03456	KEN & SHERYL CATLIN
02705	MARGO CATRON
02706	TOM CATRON
02277	WOODROW CATRON, JR
03560	JOSEPH B. CAVAZOS
03553	MARK A. CAVAZOS
03920	DICK CAVENDER
00213	SARAH CAVGRIL
01542	MIKE CECILIANI
01932	MARIE CEDERNA
01292	SHAWN CENTER
03539	CURT CEPICA
03013	DEL CESAR
01589	AUDREY D. CHADSEY
04210	TONI CHADWICK
01809	F. E. CHALFAN
00917	D.F. CHALTEN
02005	JIMMIE CHAMBERLAIN
01922	KEITH CHAMBERLAIN
04541	KEITH CHAMBERLAIN
02640	ROBERT M. CHAMBERLAIN
04761	ROBERT L. CHAMBERLAIN
04438	CATHY CHAMBERS
02020	ESTHER K. CHAMBERS
02741	LEROY A. CHAMBERS
03009	TOM CHANCE
00016	STUART CHAPIN
03952	DEBRA CHAPMAN
03404	SCOTT CHAPPELL
00022	JOHN A. CHARLES
04737	KENNETH CHARLTON
01263	DAVID CHASE
01724	GREGORY CHASE
04436	GARY CHATTERTON
00357	PAUL CHEATHAM
01160	CHEEK
00498	WALTER H. CHEELY
01036	JOHN CHELSON
03278	HENRY CHEN
03947	THOMAS M. CHERECK, JR
00969	JOHN G. CHESLOCK
00674	ED CHILLQUIST
02578	JOHN P. CHIKHESTER
04797	CHARLES R. CHRIST
03669	BRIAN CHRISTENSEN
03520	DOUG CHRISTENSEN
03305	JOHN CHRISTENSEN
03694	TRAVIS CHRISTENSEN
03665	HAROLD CHRISTIANSEN
04050	DON CHRISTIANSON
03122	JULIE CHRISTIANSON
03675	JOHN CHRISTIE
01555	IVY M. CHRISTMAN
01556	W. E. CHRISTMAN
03563	GALE CHRISTNER
02746	MERCEDES L. CHRISTOPHER
02745	RALPH CHRISTOPHER
04719	JOHN R. CHURCHILL
02743	ANDY CICH
02793	JOSEPH P. CICH
02371	LINN E. CICH
01887	CHARLES CIECKO

04604	DALE CLAASSEN
04580	ELJEAN CLAASSEN
04323	CLACKAMAS CO. COMMISS
03215	BILL CLARE
03592	DENNIS LEE CLARK
03754	DENNY CLARK
04310	ELAINE & GORDON CLARK
02333	GEORGE CLARK
02808	HELEN CLARK
03624	KEN CLARK
02600	KEVIN CLARK
02810	LARRY CLARK
03137	LARRY CLARK
02330	OLIVE E. CLARK
02336	WILLIAM E. CLARK
00368	FRANK CLARKE
03950	SHARON CLARKE
02515	BILLIE L. CLAUD
02514	MARVEEN L. CLAUD
03232	DON CLAY
00574	LARRY L. CLAY
02501	FRANK C. CLAYTON
00593	PAUL R. CLEMENT
03193	WAYNE S. CLEMENTS
04314	CARRIE CLOTERE
01042	DENNIS CLUFF
00270	PEGGY COADY
01630	ROBERT COATS
02376	CAREY COBB
02455	CORA COBB
02350	WESLEY COBB
04284	ED COBURN
02364	ROBERT S. COBURN
02625	DENNIS COCHRAN
02559	FLOYD COCHRAN
04062	GEORGE G. COCHRAN
02206	GEORGE J. COCHRAN
04061	LINDA COCHRAN
03047	TYMERA COEN
00656	DAVID L. COFFIN
02383	KEN COHEN
02393	ROBERST S. COHEN
00756	RON COHEN
02429	E. G. COLBURN
02430	LILLIE A. COLBURN
02915	JAMES L. COLLIER
04195	EUGENE COLLINS
01553	JOANNE COLLINS
03355	JUANITA J. COLLINS
00051	LARRY COLLINS
04108	SHEREE COLLINS
02105	FOREST E. COLTON
01900	BARBARA J. COMBS
04110	JEFF COMEL
00035	CONCERNED CITIZENS
03888	MICHAEL CONDWELL
03527	ROB CONLEE
04442	CANDACE CONN
00514	CHARLES E. CONNER
00541	ROD CONNER
00738	WILLIAM H. CONREY
04477	STEPHEN S. CONSTANS
04280	PAT CONUY
03228	DAVID COOK
04263	DAVID COOK
01674	JOHN D. COOK
00389	LINDA COOK
03236	SUE COOK
04480	T R COOK
00018	TOM COOK
00863	CRAIG COOKINGHAM
01901	MARY L. COOKMAN
00676	JOHN COOLEN
01330	ALAN COOLEY
04170	CLAIR COOPER
00551	KEITH D. COOPER
03108	ROY & WILMA COOPER
00963	RICK COPHER
04546	BILL COPPLE
01069	CRAIG CORBALEY
01478	LEE CORDER
00310	DAVID B. CORE
02062	DAVIN CORESON
03298	DOROTHY CORESON
00942	FLOYD CORESON
04124	STEVEN H. COREY
04775	DAVE CORKRAN
03221	RODGER CORNELL
01759	THOMAS L. COTTRELL
00584	JANET B. COUCH
01974	JOHN H. COUCH
04250	PEGGY & JAMES COULOMBE
01991	DAVID E. COUNTRYMAN
03069	CHRIS COUNTS
03864	DANIEL COURSEN
00375	KEN COVERT
03919	MS. M. E. COVERT
03426	M. E. COVERT
02040	DONALD COVEY
01345	PAUL S. COWAN
03998	RUTH COWAN
00463	GEORGE S. COWARD
00462	MARILYN COWARD
00583	WILLIAM B. COWEL
01420	TIMOTHY H. COWLES
02311	FAGAN A. COX
01545	JILL COX
01895	SUSAN E. COX, MD
00272	BARBARA J. COYLE
01670	TED COZINE
01361	JOHN CRABBE
02948	MICHELLE CRABTREE
03529	DEAN CRAIG
04432	KAREN CRAIG
04430	KENYON CRAIG
01806	GERALD CREASY
02364	SHIRLEY CREE
03286	CLAUDE CRENSHAW
03317	DONNA CRENSHAW
01749	LARRY A. CRENSHAW
02718	WILLIAM C. CREWS
03199	ED CRIPE
00114	GERALD CRIPE
00101	SHANA CRIPE
00113	SHIRLEY CRIPE
00287	EDDIE CRIPPEN
01488	BILLY H. CRITES
04597	ROBT CRITES
01753	DONALD F. CROACHER
03456	HEIDI CROES
00240	KELLY G. CROFF
01684	CARL B. CROLL
04763	JEFFREY A. CROOK
00461	DORIS L. CROOKS
01909	LAURIE CROSS
03293	WILLIAM J. CROTEAU
00460	STEVE CROTHERS
02126	JAMES W. CROUCH
02128	MICHAEL A. CROUCH
00711	LEONEL CROWDER
00853	J. CROWLEY
02675	LOYD CROWN
01678	JAMES CRUDELE
02059	GERALD L. CRUMPACKER
03475	BLAIR CSUTI
00488	SHERYL ANN CUDABACK
01836	GORDON CULBERTSON
04558	ERIC CULLANDER
02120	GILL CULPEPPER
02738	CATHERINE R. CUNNINGHAM
02083	CHARLES CUMINGHAM
02735	DAVID CUNNINGHAM
02599	IDABELLE CUNNINGHAM
04403	JAMES CUNNINGHAM
02246	LUIN CUNNINGHAM
00887	PAT CUNNINGHAM
02631	RUSSELL CUNNINGHAM
03926	JOHN M. CURRAN
03954	DAVE CURRY
02423	A. B. CURTIS, JR.
02242	ARON J. CURTIS
03953	DAVE CURTIS
00867	GARY J. CURTIS
03813	JAY CURTIS
00370	KEN CURTISS
03759	JODIE CURTISS
01496	ED CUTLER
00696	JOHN CUTTER
00046	BOB CYNKAR
04125	VERA L. DAFOE
03150	RANDY DAGEL
00194	LAURENCE DAHLKE
02943	BOB DAHNE
02941	SUE DAHNE
02942	WILLIAM DAHNE
02527	DIANA E. DALEY
02526	GORDON DALEY
04590	OLIVER DALTON
03266	BRENDA DAMASKOS
03951	DENNIS DAMRUS
03186	FRANK E. DANIEL
01886	FLOYD W. DANIELS
04278	JUANITA DANIELS
01659	PAUL DANIELS
04659	ROBERT DANKO
02868	DARRELL DANNEN
03620	KENNETH R. DARBY
02348	STEPHEN DARLING
03730	HENRY DAUB
03731	PAULINE DAUB
00202	MICHAEL L. DAUENHAUER
02504	TAMMY DAUGHERTY
04547	DORIS DAVENPORT
00001	TED DAVENPORT
04162	DENNIS DAVIDSON
04378	AL DAVIS
02645	CHARLES E. DAVIS
04781	CARROLL DAVIS
03910	CARROLL L. DAVIS
00501	D. DAVIS
03588	EARL DAVIS
03639	EUGENE DAVIS
01657	FRIEDA DAVIS
00329	IRL & ORENA DAVIS
01518	MELVIN L. DAVIS
03429	MIKE DAVIS
02657	PAT DAVIS
01091	RAY & PHYLLIS DAVIS
03530	RON DAVIS
02342	PHILLIP DAWSON
03708	PETER DE BUSK
03822	MIKE DE FABIO
02921	AMBER DE GANDI
02579	JON D. DE GROOTE
04138	ANGELICA M. DE GUZMAN
02570	SCOTT DE HART
02830	JUDY DE SHAZER
02829	LOREN DE SHAZER
01573	GERRY DEADMOND
00067	CHERRIEVE K. DEAN
03274	PATRICK DEARING
02787	KENNETH A. DEAVILLE
02954	BILL DEBOEVER
02644	GENE DECHU
04177	BOB DECKER
03386	DAVID DECKEST
04325	LORRAINE DEE
03570	JOHN A. DEETS
00920	EUGENE A. DEHLINE
00734	DELAYNE DELCO
00844	GUS DELCO
00512	PENNI DELCO
04142	RANDY DELCO
00140	GARY DELVIN
04839	WILFRED C. DEMENT
03714	C. A. DEMPSEY
00173	KEN DENIS
02858	MARK DENNER
01257	CALVIN DENNIS
02363	HAROLD DENNIS
02710	MARIAN DENSMOOR
00767	JOHN J. DERU
00909	RICK DERRICK

00796	ROBIN DERRICK
02486	CAROLYN DERTER
00938	ROBERT DESOUZA
02474	KAREN DETHMAN
02469	M. J. DETHMAN
01193	DAMON R. DEVINE
03402	GARI JO DEVLIN
00821	RUSSELL D. DEVORE
01786	A. O. DEVORE
01280	GARY DEWALL
01583	KENNETH R. DEWAR
01156	JED DGER JR.
04115	KERRY S. DICK
03956	MARGARET DICK
03963	RONALD & BARBARA DICKIN
02360	DALLAS DICKINSON
00752	KERRY V. DICKMAN
01743	GERALD DIERCKS
04749	PALMER DIETZ
03704	JOHN DIETZMAN
01211	DONALD E. DIGESTI
04661	PATRICK D. DIGNAN
00626	SCOTT & LINDA DILLON
01427	JENNIFER DIMLING
04837	CHRIS DIRKS
04363	JANE C. DIRKS-EDMUNDS
03357	STEPHEN R. DITEWIG
01725	MARY DIXON
01088	ROBIN DOBSON
04276	CHRISTOPHER DOBSON
03146	S. M. DODD
00019	NICHOLAS DODGE
00013	NICHOLAS A. DODGE
04098	RICHARD DODGE
00733	JEROLD L. DODSON
03376	GARY W. DOERING
04199	RAY DOERNER
00715	ASA D. DOGGETT
00419	MCLEOD DONALD
03169	WILLIAM D. DONALSON
00062	MAE DONNELLY
03171	MIKE DONNELLY
04599	DEANNA DONOVAN
00746	DARREN E. DOOBLY
01394	JOE L. DOOLEY
00316	SHEILA DOOLEY
04088	BOB DOPPELT
04815	JUDY DORZAB
02955	DEAN DOSSETT
00585	ESTHER I. DOTY
00586	WILLIS H. DOTY
01204	EDWIN C. DOUGHERTY
01192	GEORGIA DOUGLAS
02929	LILLIAN DOUGLASS
02551	BRETT A. DOUTHIT
03949	DENNIS DOUTHIT
03728	KARIN DOUTHIT
01525	MARC R. DOUTHIT
02961	ROY D. DOWELL
02790	BOYD DOWERS
03125	DEBRA DOZHIER
02984	RAYMOND L. DRAKE
02361	COREY DRAPER
03209	LYDIA DRAPER
02834	KAREN J. DREHER
03670	ROBERT DREIXLER
04105	RANDY DREW
02036	KARL F. DRLICA
03856	JIM DRUBY
01430	ANNE DRYAD
00676	BILL DRYDEN
01746	GENE DU VALL
04235	DOUGLAS DUBOSQUE
00572	FRED DUCKWALL
00571	RICHARD F. DUCKWALL
02791	ALBERT A. DUDDLES
02067	CAROL DUDDLES
02667	RALPH DUDDLES
04493	ROBERT C. DUDDLES
02065	THOMAS JAY DUDDLES
02351	JAY T. DUDLEY
01123	SIDNEY DUER
042	MARIE DUERST
00670	ART W. DUFAULT
00193	WILLIAM DUFFY
02449	JEFFERY B. DUKE
00273	STEPHEN D. DUKE
01446	JUDY DUNCAN
03546	RICHARD W. DUNCAN
02544	MARVIN DUNIPHIN
00664	STUART DUNIPHIN
02122	DORIS DUNLAP
02121	FAHLER DUNLAP
00657	FRANK R. DUNLAP
03394	SAM D. DUNLOP
02097	DONALD L. DUNN
03729	LINDA L. DUNN
04637	GEORGEANNE DUNNAVANT
04636	SAM DUNNAVANT
04635	SAM DUNNAVANT, JR
00911	MIKE DUPONT
03634	MARK DURAND
03635	TONYA DURAND
01094	PATRICK DUREN
02488	RITA DURHAM
01474	KENNETH W. DURHAM, DMD
02758	TOMMY Q. DURHAM
04701	JEAN DURNING
04900	M.W. DURRELL
04443	JOHN DUVALL
04362	JOHN G. DUVALL
04520	LOIS DUVALL
03183	THOMAS DYCHE
04539	THOMAS DYCHE
03299	F. J. DYCHES
03997	JAMES DYE
04273	RON DYE
01410	JAMES W. DYER
01279	LEON DYER
03966	TED DYGERT
00550	ELEANOR DYKE
01619	DEANNA DYKSTERHUIS
00432	GARY EARL
00965	BRUCE EARLEY
03794	STEVE EARLS
04212	ROBBIE EARON
00238	OWEN & CLAUDINE EAST
02262	WILLIAM H. EASTMAN
01455	MARK EBBERTS
00235	FLORENCE S. EBELING
00391	ELLEN EBERHARDT
01336	HANK EBINGER
04446	KAREN ECKERT
04447	RICHARD ECKERT
00627	ROGER EDGAR
01997	W. EDGERLEY
00708	LARRY EDIGER
00905	WILMA EDIGER
02966	C. E. EDINGTON
00991	DEAN C. EDMUNDS
04538	CATHERINE EDWARDS
02061	CHARLES E. EDWARDS
04641	GLEN EDWARDS
02098	JAMES EDWARDS
04028	TERRY EDWARDS
04715	MARK EGGER
01298	MARNELL EGGERS
01173	WES EGGERS
01386	HAL EHMER
04569	DAVID EK
04410	JAMES EKVALL
01183	DON ELDER
00327	JACK ELDER
00366	JOHN H. ELDRIDGE, SR.
01030	VIRGIL ELLETT
04218	G. PETER ELLINGSON
01496	C. L. ELLINGSWORTH
02601	DAVID ELLIOT
02641	ROY L. ELLIOT
02753	TOM ELLIOT
01477	BILL ELLIOTT
01196	EDWIN ELLIOTT
01799	WILLIAM D. ELLIOTT
01920	JO ANN ELLIS
01655	M. JACK ELLIS
04326	RICK ELLIS
00436	VIRGIE V. ELLIS
04657	GREG AND CATHRYN ELLSWORTH
03337	JIM ELLSWORTH
02161	KIMBERLY D. ELMER
02496	SHANE ELMER
00949	ANDREW ELSBREE
04736	RONALD L. ELSNER
02146	DONALD ELWARD
02154	EDITH ELWARD
03627	MRS. RALPH E. ELWOOD
00130	PATRICK EMMERT
00652	T. ENDOW
02574	B. ENDOW
04564	HAL ENERSON
01259	ARNOLD G. ENGEL
03261	HAL ENGELEN
02041	G. ENGEN
02303	DONALD L. ENGLER
04084	DONALD L. ENGLER
04295	DIANNE E. ENSIGN
00333	GEORGE ENTERLINE
02769	JIM EPPERSON
00315	DR. KIMBALL S. ERDMAN
03105	WALTER ERICKSEN
04044	A.F. ERICKSON
00105	GARY ERICKSON
04306	LARRY ERICKSON
04046	MARJORIE ERICKSON
01406	RALF ERLANDSON
04654	EVA ERNSTER
04823	WESLEY D. ERVIN
02076	ADRIA M. ERWIN
01570	ALFRED L. ERWIN
03677	DALE AND JOANN ERWIN
03170	GARY ERWIN
01569	ORALEE ERWIN
03674	RICHARD D. ERWIN
03676	WILLIAM ERWIN
02679	TOM ESCENE
03696	RICK ESCOVER
03663	ANDREL Y. ESEPWAK
04659	JOSEPH E. ETHERIDGE
00250	WALLY EUBANKS
03362	TONY G. EVAN
02405	GRADY H. EVANS
02403	GWEN C. EVANS
02676	NEIL C. EVANS
01115	RON EVANS
04683	ZUELLA J. EVANS
01271	WINIFRED JO EVERLY
00183	DENNIS & CLIFREDA EVERSON
04316	KAYE EXO
01549	F. M.
02674	ROBERT L. FAAS
03290	RICHARD R. FAEY
00167	MICHAEL A. FAHEY
02997	MICHAEL FAHEY
03661	JON FAIRBROTHER
03654	WILLIAM FAIRCLOTH
04510	KENNETH & KAREN FALK
00631	KEN FALLON
04317	ARTHUR FARLEY
00944	ROBERT FARLOW
00623	ED L. FARMER
00234	LESTER FARMER
00223	SHIRLEY FARMER
01080	JACK FARRAR
04100	GAIL FASCIANO
02092	JAMES L. FASSBULE
03186	GARY R. FAULHABER
03745	GLENN FAULHABER
01250	BLAINE FAULKNER
01239	CRAIG FAULKNER
03434	TOM FAUROT
00690	DONALD L. FAWVER
03433	DUANE F. FELIX
01136	CHARLES FELTER

04780	FRED & IRIS FELTER
03623	DARYL FENNIMORE
03148	WALTER FERGERSON
04645	DONALD FERGUSON
01594	FLOYD D. FERGUSON
02310	JOHN F. FERGUSON
01446	GORDON FERLITSCH
00803	STEVE FERRELL
03696	DONALD FERRISLEDT
02347	MAVIS FERST
01227	CATHY FETTER
03757	MORRIS D. FEUERHELM
01213	LARRY FEUERSTEIN
02109	MIKE FEY
02073	MILDRED FEY
01253	GARY FEYERHERM
04602	JACK FINNELL
01697	FRED W. FINSTER
01567	NANCY LOU FINSTER
04341	CHRISTINE FISCHER
03846	MICHAEL E. FISH
03677	PATRICK FISH
03100	HARRY E. FISHEL
02681	AUDREY FISHER
02482	GARY DEAN FISHER
04209	JOE FISHER
02674	LARRY L. FISHER
00540	BARBARA FISHLEDER
01911	BARBARA FISHLEDER
04156	FRANCINE FITZPATRICK
00269	NICHOLAS FLANN
03368	VERNON W. FLEISCHMAN
00030	DAVE FLEMING
01493	MARK FLEMING
01481	JACK L. FLETCHER
00131	LEE FLINN
04626	GLADYS M. FLINT
02399	MARGARET E. FLINT
03329	ROBERT FLINT
00965	PATRICK FLOOD
03257	PATRICK FLOOD
04223	JAMES FLORES
02341	ALOIN C. FLORY, JR
02569	BRADLY FLORY
02344	HOLLY I. FLORY
04633	PERRY FLORY
00122	RODNEY FLOYD
04431	ROGER FLOYD
03558	BILL FLYNN
03698	BRIAN FLYNN
04119	CAVESSA FLYNN
00440	JOSEPH FOGGIA
01397	JIM FOGLIO
00764	DEBBIE R. FOHL
01584	JOE A. FOLSOM
03461	GRACE FONTANA
04521	HERB FORBES
02672	KIM FORBES
04172	BONNIE FORD
00691	D. ANNIE FORD
03551	DEREK E. FORD
04106	NANCY H. FORD
03324	TOM FORREST, SR
02086	TONY FORTNER
01654	FRANCES M. FORTUNE
01694	GLENN D. FORTUNE
02562	LORRAINE FORVILLY
04776	JAMES FOSBURGH
03345	NANCY FOSS
03447	NANCY FOSS
02336	BEN C. FOSTER
01936	BRUCE A. FOSTER
03693	CHRIS FOSTER
00702	JULIE FOSTER
02010	MARVIN FOSTER
02978	NORMA J. FOSTER
00659	ROBERT E. FOSTER
04069	ROBERT FOSTER
04534	SUSAN A. FOSTER
00699	PAMELA FOSTER-HALL
03849	JERRY FOULTNER
01252	ED FOX
04400	LYNN E. FOX
01567	ROBERT L. FOX
01377	HAROLD J. FRANCE
04712	C E WIN FRANCIS
01976	JANET FRANK
01698	JOHN FRANK
03712	LUCY FRANK
02946	MARTIN J. FRANK
02175	DON FRANKLIN
02055	MARY L. FRANKLIN
01363	RUSSELL FRANKEL
03298	VIRGINIA FRANKLIN
00311	CLARENCE F. FRANKS
00694	ALAN STEVE FRAZIER
02665	JACQUELINE FREAS
01291	GERALD W. FREDRICKS
03034	R. M. FREDBALL
02328	RANDY FREE
02995	MITCH FREEDMAN
03195	BRUCE FREEMAN
04206	G.J. FREEMAN
03280	JEFF FREEMAN
03033	RICHARD W. & MOLLY FREEMAN
01102	ANTONIO FREIXAS
02039	J. FRELICH
03363	CHESTER W. FRENCH, JR.
00668	PETER L. FRENETTE
03036	PETE FRENETTE
01407	PAT FRERES
01409	ROB FRERES
03531	DENNIS FRESHOUR
02647	HUGH W. FRETWELL
00006	JOHN FREWING
04696	JO LYNN FREWING
00649	ROBERT D. FRIAS
04658	JACK FRIBERG
00366	FRIENDS OF BAGBY
03790	TIM FRIESEN
01269	HARLAN C. FRIETAG
00698	RICHARD S. FRIPELL
02163	MANILLA FRISLEY
03233	MARK FRISTAD
04137	RICHARD J. FRITTS
04201	EDWARD C. FRITZ
04752	CLARENCE L. FROEHLICH
03766	TIM FROEMKE
03444	RALPH FROHWERK
04482	THOMAS E. FROMHERZ
01126	JACK FROSH, SR
03493	JACK FROST
00470	JACQUELINE M. FROST
02221	WILLIAM J. FROST
00714	JERRY FUCHS
01679	D. FUESS
03497	BRAD FULLERTON
02267	MIKE F. FULLMER
02266	TED D. FULLMER
04339	EARL FULTZ
01130	FLOYD FUNK
02760	TERRY L. FUNK
03648	GREG FURBEE
03784	CANDY L. FURROW
01176	ROBERT FUZ
00687	ELLEN D. FUZI
00717	TIMOTHY G. FUZI
00686	WILLIAM J. FUZI
00722	BILL GABRIEL
00747	HELEN M. GABRIELSEN
01652	YVONNE GAIDIEHE
03965	ROBERT GALASSO
00423	M. JAMES & VELMA M. GALBRAITH
01432	CHESTER GALKA
04123	THOMAS L. & SHARON GALL
01761	MARION C. GALLAHER
03095	BILL GALLENTINE
03144	ELMO GALLETON
00255	KENNETH GALLOWAY, JR.
00996	DAVID GALT
01009	T.L. GALT
02196	RICARDO GALVZ
02096	FRANK E. GALYEN
01134	ALAN GANLSDORF
03725	MARTY GANT
00869	RUDOLF GANTNER
01109	TERRI GANZALEZ
00038	BERNADETTE GARDNER
04704	LEN GARDNER
04738	ROBERT L. GARDNER
04175	RON GARDNER
03332	PAM GARLAND
02738	FRANK L. GARNER
00095	CATHERINE GARRETT
04373	ROGER C. GARRETT
01153	JAKE GARRISON
00806	STEPHEN H. GARRISON
00849	W. GASKINS
03742	DEBBIE GASS
01348	JACK GATES
01145	ROY GATES
03140	WILMA GATWOOD
01417	LEO GAUVIN
00258	PETER & KATHY GAY
04262	PHOEBE H. GAYNOR
01468	BETTY GEARHART
01884	CLARENCE GEARHART
04536	FRANK GEARHART
01634	GEORGE E. GEBHARDT
02367	LINDA GEHRIG
01416	RUDY F. GEHRIG
04697	BARRY GEIKEN
00143	JAMES C. GEISINGER
00331	CASCADE ANDERSON GELLER
00322	ELLIOT M. GELLER, M.S.W.
00637	TROY GEORGE
03646	ROB D. GEPFORD
02677	JEANNE M. GERELD
04583	BOB GERL
03690	CAROL B. GERL
03939	ELLEN GERL
03962	GARY GERL
02642	JOHN GERSTENBERGER
00403	LOUIS GESCHWINT
00417	WILLIS GHOLSTON
01504	WAYNE H. GIBBONEY
01645	DIANA GIBBONS
04548	KAREN GIBBONS
00029	LELAND GIBSEN
01218	CLARENCE R. GIELISH
01196	JAMES GIELISH
04818	FLOYD GILBERSON
03637	DUWAYNE GILBERT
02691	RUSSELL V. GILBERT
04515	WILLIAM E. GILBERT
02500	SCOTT T. GILKERSON
02842	LARRY O. GILLAM
04656	ALAN GILLESPIE
00410	THOMAS GILLIGAN
01637	CHARLES GILLILAND
03370	BRIAN S. GILLIS
04696	ROBERT GILMORE
03942	MARVIS GILNETT
00743	MICHAEL W. GILPIN
04705	LAURA GIRARDEAN
03190	M. R. GIROUARD
03795	EDWARD M. GIRRENS
01396	JOE GISHOLT
02319	JACOB GJERNING
00225	JAMES D. GLADISH
04231	SHA GLEASON
02540	JAMES A. GODFREY
04809	ALMA GODFREY
03470	LOUISE GODFREY
02518	SHERRY L. GODFREY
02279	BILL J. GOE
02327	TOM GOE
03107	KEITH GOEDE
04346	MARTHA GOETSCH
03612	R.C. GOHEEN
04336	BARBARA GOITEIN
04256	MARSHALL GOLDBERG,MD
04529	NEIL GOLDSCHMIDT

04347	PHIL GOLDSMITH
01961	DANIEL L. GOLDY
03465	CHRISTIE GOLEN
00607	HOWARD GONSER
01203	REYNALDO GONZALEZ
03766	GILBERT GONZALEZ
00542	CHERYLE GOOCH
00528	WILLIAM C. GOOCH
04006	KEN GOODE
02145	D. F. GOODENOUGH
02148	MAXINE GOODENOUGH
02773	ANDREO GOODMAN
01640	JOE W. GOODMAN
01245	LINDA GOODWIN
01957	RON GOODWIN
01776	WILLIAM L. GOODWIN
01346	BOB GOOLEY
01347	KAREN GOOLEY
00467	MARTHA A. GOOTEE
00468	HERBERT R. GOOTEE
03462	EMERY GORBETT
04034	PRESTON GORBETT
02615	KEITH GORDON
03042	MATTHEW GORDON
04294	THOMAS GORDON
04621	JOHN & KATHLEEN GORHAM
04563	DAN GORMAN
03094	JOHN GORMAN
04433	SARAH GORMAN
02923	ALBERT J. GOSIAK
03297	CHARLOTTE GOSIAK
02395	BECKY GOSS
01224	DELBERT GOSS
01267	EARL GOSS
02065	GORDON GOSS
02396	JENNIFER GOSS
02401	MILLRED E. GOSS
02114	RONALD GOSS
02602	RONDA GOSS
02603	ROY GOSS
00069	FLOYD W. GOSSARD
02662	JAMES G. GOSSON
04627	PETER GOTHRO
01399	ALAN C. GOUDY
01370	BARBARA GOULD
03747	RONALD GRACE
00196	GARY GRAGE
03498	JACK GRAHAM
03567	JIM GRAHAM
02564	MARIE GRAHAM
02525	MICHAEL D. GRAHAM
03074	PAMELA J. GRAHAM
04159	G. A. GRAINGER
03699	MIKE GRANLUND
03657	BRAD GRANT
02298	DONALD A. GRATE
02611	BETTY J. GRAVES
02127	MERRILL R. GRAVES
00293	MICHAEL GRAVES
02216	M. W. GRAVES
04475	GERALD W. GRAY
02144	JAMES O. GRAY
02673	JUNIOR GRAY
01637	KENNETH D. GRAY
01098	ROBERT GRAY
04631	CAROLYN GREEN
04907	GUYRETH GREEN
04425	JOHN GREEN
02440	PAT GREEN
02689	ROBERTA GREEN
04906	TIM GREEN
04635	DAVE GREENE
04232	MICHAEL GREENSTREET
01975	JAMES M. GREGG
04359	PHILO GREGG
02450	CARL D. GREGORY
04725	CAROLYN GREGORY
02537	GLENN GREGORY
04740	HAROLD GREGORY
02554	LYNDA GREGORY
01164	M. GREGORY
02288	THOMAS L. GREGORY
00969	E. LEE & DORIS E. GREIF
04164	VERNON GREIG
01188	BRUCE A. GRELL
01268	KEN GRELL
02623	JEAN GREY
01662	JAMES P. GRIES
03349	JOHN GRIFFITH
00763	KENNETH R. GRIFFIN
02396	WANITA E. GRIFFITH
03369	AVA GRIM
03396	DON GRIM
00249	JOHN GRIMM
04275	JOHN GRIMM
01226	BILL GRINER
03097	KEN GROAT
02593	JACK GROOM
04420	CHAD GROSS
03936	DAVID GROSS
04249	DAVID C. GROSS
04422	GEORGE & SUE GROSS
04412	JACK GROSS
02629	JESS L. GROSS
00340	KEVIN GROSS
00021	LAUREL LEE GROSS
00392	MICHAEL GROSS
02630	RUBY L. GROSS
01069	RICHARD GROTE
04568	GARY GROVE
04584	SHERRY GROVE
00005	SHERRY R. GROVE
01926	ROBERT GROVER
04545	JEFF GUARD
00142	THOMAS JAY GUDDES
04027	MANUEL GUERRERO
00652	DEAN GUESS
03648	BLAKE A. GUEST
04916	RICH GUEST
00364	ELDON GUISCHER
02972	PAUL GULA
00090	WILT GUNDERSON
02013	LESLIE GURBAN
00719	GEORGE M. GURLEY
00720	ROSALIE GURLEY
01475	CARL W. GUSTAFSON
01166	GARY A. GUSTAFSON
02767	J. F. GUSTAFSON
00436	MARGE GUSTAFSON
00146	SUSAN GUSTAVSON
04686	CANDICE GUTH
00606	HAROLD E. HAAKE
01571	LYLE A. HAAS
03650	DANE HAASE
03772	JERRY L. HABERLACH
04466	THOMAS HACHTEL
02132	DEBRA HACKSTOCK
04179	ROB & MO HADDON
03569	J. D. HADLEY
03515	GAIL L. HAGEE
02016	KERMIT HAGEMEISTER
03562	FRANK HAGEN
01635	KATHY HAGEN
00622	LARRY D. HAGER
01944	WILLIAM C. & RUTH HAGLAN
04362	JOHN HAGLUND
04163	JOSEPHINE HAGSTROM
01335	BYRON HAHNER
04068	PHILLIP C. HAINES
01105	KIRK HAL
03405	KEITH HALE
01662	ROBERT HALE
04444	CLEO HALL
00211	DAVID E. HALL
03691	KEVIN HALL
01658	MELVIN L. HALL
03139	STUART HALL
03663	JANE HALLAWAY
01367	JANE HALLGARTH
04435	JANE HALLSTROM
04630	A. B. HALLSTROM
04689	W.G. HALLSTROM
03267	DEAN J. HALPAUS
01261	DANNY C. HALSEY
02136	MENORU HAMADA
00063	EARNIE HAMBY
00076	RAINA HAMBY
04698	GERRY HAMILTON
03604	WALTER JAY HAMILTON
00062	R.T. HAMLEY
01310	RICHARD M. HAMMACK
04474	BRUCE HAMMARK
04097	BILL HAMMER
04772	BILL HAMMER
01863	PAUL HAMMER
01873	ALICE M. HAMMITT
00050	GARY HAMMITT
00064	KIM HAMMITT
00561	JOHN HAMMOND
01398	JOHN HANAUSKA
03365	JOHN E. HANBY
03477	DON HANCOCK
03733	JOHN HANCOCK
00119	ELIZABETH HANDLEK
04684	ELIZABETH HANDLER
02168	RALPH HANDY
00592	BARBARA HANEL
02610	KATHLEEN M. HANEL
02425	L. STERLING HANEL
04550	L. STERLING HANEL
00594	WILLIAM W. HANEL
02654	C. B. HANFORD
03207	NADINE HANKINS
03519	JAMES W. HANLEY, JR.
01700	RICHARD L. HANLIN
04132	SCOTT HANNIGAN
02522	HEICL HANSBERGEN
02572	ALLEN HANSELL
04370	BETTY Q. HANSEN
01642	BILL HANSEN
02161	GORON NEAL HANSEN
03133	HAROLD HANSEN
03776	KATHLEEN HANSEN
01963	LEWIS HANSEN
00472	NEIL B. HANSEN
04616	STEVE HANSEN
00664	DAVID HANSET
02776	DAN HANSHAW
02307	L. I. HANSON
01612	MR. HAPAG, JR.
00033	JERRY HARAM
01626	C. E. HARBESON
02231	ELLIS HARDIN
00303	GLENN HARDING
03449	JANIS L. HARDMAN
02766	JOHN J. HARDMAN
04616	DEBORAH HARGIN
03548	BLAKE A. HARLON
01299	ERLEAN HARMON
00158	JEAN HARMON
01771	DICK HARMS
04632	LANDON L. HARNAR
02533	BARBARA HARPER
02530	BILL HARPER
01669	K. J. HARPER
03679	WILLIAM HARPER
00034	JEFFREY HARRAM
02690	DANIEL HARRINGTON
04746	MICHAEL HARRINGTON
00607	DON HARRIS
00248	J. HARRIS
00367	WILLIAM HARRIS
03584	BERTIE LEE HARRIS
04742	DANIEL C. HARRIS
04023	ED HARRIS
04187	EDWARD HARRIS
01313	MRS. EDWARD J. HARRIS
03925	GLENDA HARRIS
01180	ERNEST HARRISON
03380	FRANK HARRISON
03203	GARY HARRISON
01241	JAMES HARRISON
04186	JOHN HARRISON

00653	R. HARRISON
01531	DOUGLAS A. HART
02214	STEVE HART
04486	GEOFF HARTE
01964	JANET HARTE
04504	JANE HARTLINE
03557	JERRY HARTMAN
03566	EDDIE HARTRAMPF
04191	EVA HARVEY
00997	DR. RALPH HARVEY
00135	ANN HARWOOD
00136	RICHARD HARWOOD
02639	MARK HASEGAWA
02671	SHELLEY HASEGAWA
00026	MARION HATCH
00369	MILFORD HATCH
03239	GENE HATFIELD
00573	CAROLYN HAUGHTON
00596	SID HAUGHTON
02320	BARB HAUSINGER
01806	HAROLD A. HAUSINGER
01380	EUGENE L. HAVEN
04532	MARTIN HAVLICEK
02366	A. E. HAWKINS
03181	CARLEEN HAWKINS
02875	DARLENE HAWKINS
02932	DONALD W. HAWKINS
00990	CEDRIC HAYDEN
02871	DAWNA HAYES
00259	DEANN M. HAYES
00744	DAVID HAYNES
03868	JOHN HAYNES
03643	ALAN HAZELTON
04640	HARVEY HAZEN
02517	DANA HAZLETT
02606	LARRY D. HAZLETT
02719	DENNIS HAZLETT
04663	ROBERT HEADRICK, SR
02228	ANN HEARN
01699	C. W. HEATH
01726	KENNETH L. HEBARD
01651	BARBARA HEBARD
00152	DENICE HEBERLINE
00160	JACOB HEBERLINE, JR.
03526	ALLEN HECKER
00977	JEFF HECKER
00475	JOY HEDGE
00497	STEVEN E. HEDGE
03242	MICHAEL HEFFERNANSN
01024	PHILIP & WINIFRED HEID
00644	GIL HEIDEMAN
03255	DICK HEILE
00342	MR. & MRS. STEVEN HEILESON
03291	DAN HEIN
01982	ERWIN HEIN
00762	PAUL HEINRICH
02922	PETER M. HEITKEMPER
04203	GEORGE HELKEY
04664	ERIK HELLENTHAL
04266	JUDY HELLER
01320	LORRAINE HELLER
00523	MIKE HELM
00495	DAN HELMIG
04491	DON HELMIG
00489	MELANIE HELMIG
04349	BRENDA HENDERSON
00768	D. RUSSELL HENDERSON
03378	DANIEL R. HENDERSON
00339	HEATHER HENDERSON
00067	JAMES E. HENDERSON
04608	JUDY HENDERSON
04667	JUDY HENDERSON
04609	ROBIN HENDERSON
04650	RAY W. HENDRICK
03262	HAROLD R. HENDRIX
04011	CHRIS HENLE
02480	L. S. HENNEINGOGARD
04297	BOB HENNESSY
04674	PEGGY HENNESSY
01631	C. E. HENRY
00978	PATRICIA A. HENRY
01163	RALEIGH HENSHAW, JR
02665	MICHAEL C. HENSON
02220	ROSALEA HEPNER
02162	HELEN HERBERS
04375	P. SYDNEY HERBERT
00464	JEFFREY M. HERD
03777	R. D. HERIZMAN
02666	DON HERMAN
03717	FRANCES HERMAN
03681	FRANK HERMAN
00377	FRANK E. HERMAN
02663	GORDIE HERMAN
01627	JOHN HERMAN
02187	PAM HERMAN
02606	SHARON HERMAN
02155	TIM HERMAN
01497	MARY HERNEISIN
03014	DANNY D. HERRICK
03543	MARTIN HESS
01898	PHIL HESS
01419	SPENCER F. HESS
01448	TERESA HESS
04399	AUTHUR HETHLE
01626	EUGENE R. HEUBERGER
01389	BERNIE HEUKER
02678	LYNN HEUSNBELD
04626	CLARENCE W. HEWITT
00612	AUDREY & JOHN HIATT
01590	CECILE HIATT
01591	EARL HIATT
03495	RICHARD HIBBERD
00314	DONALD K. HIBBS
00503	VERA HICKMAN
04621	RICHARD HICKS
03662	WALLACE HICKS
01214	CARL OLE HIDDLESON
00910	EDWIN HIEBERT
01365	JERRY HIEBERT
01411	LAVANDA HIEBERT
02295	CAROLYN HIGGINBOTHAN
02664	MATT HIGGINS
03656	TOM HIGGINS
03336	MARK HIGGINSON
02322	FRANK HIGHTOWER
02354	DONELLA B. HILER
02432	JOHN W. HILL
04391	MARYANNE HILL
00679	TODD V. HILL
01199	TED HILLARY
00182	JEANNE B. HILLIS
04617	LARRY L. HILTON
03269	OLIVE HILTON
02656	RICK HINKLEY
04213	JOSEPH HINTON
01431	ESTHER HINZMAN
02134	BILL HIRATA
01605	GERTRUDE C. HIRT
01679	ROBERT E. HIRT
00934	ROBERT M. HIRT
01860	ROY A. HISSONG
01031	CHRIS HITCHCOCK
03440	RAY HITCHCOCK H.D.M.
01653	CHARLES D. HOCKADAY
00057	G.R. HOCTON
04473	JAMES A. HODGE
00628	KENNETH S. HODGE
01384	DANIEL L. HODGIN
02460	DARIN HOFF
03265	TED HOFF
02611	VICKIE HOFF
03668	BOE HOFFMAN
00374	BRIAN HOFFMAN
04603	JUDI HOFFMAN
02532	MARY L. HOFFMAN
02607	RONALD L. HOFFMAN
04464	THOMAS L. HOFFMAN
04759	MARI HOFFMANN-NELSON
03505	D. A. HOFLICH
00631	PAUL D. HOGENKAMP
00007	GARY HOHNSTEIN
03442	JR. HOLDER
01303	JERRY HOLLAND
03021	ROY L. HOLLIBAUGH
00519	RON & SHERRY HOLLIDAY
03367	GARY HOLLMER
00155	KATHY HOLLOWAY
00524	DR. VERNON HOLLOWAY
02647	THOMAS A. HOLMES
02669	WILLA BEE HOLMES
01113	RICHARD HOLOCH
00939	RON HOLSCHER
04631	A S HOLST
01195	FRANK HOLSTAD
01184	CURTIS W. HOLT
00671	DOUGLAS JAMES HOLT
04751	GAIL L. HOLTER
03761	SUSAN HOLUM
01690	CHARLENE HOLZWARTH
03642	JONN HONEYWELL
01374	HOOD RIVER ELECTRIC CO-OP
00023	DAVID L. HOOK
03627	ERIC HOOK
04176	JAMES HOOKE
04535	CHERYL M. HOOLEY
03986	DAVID HOOLEY
00650	ANITA HOOPER
00615	HOOPER FAMILY
02339	GARY HOORMANN
02639	H. N. HOOVER
02646	RON HOPE
03162	HOWARD K. HOPKINS
03611	BRETT M. HOPPER
00735	CHARLES H. HORE
04665	AMOS A. HORNER
00117	DAVID HORRAX
01310	MICHAEL L. HORTON
04646	T. I. HORZELLA
04600	THEODORE I. HORZELLA
04369	ADOLF HORZYNEK
04194	LESLIE HOSFORD
01649	JACK HOSTICK
01989	B.D. HOSTMAN
03486	RAY HOTKA
04642	STEVEN M. HOUSTON
01949	CYNTHIA HOVEZAK
01413	BILL HOWARD
00400	DOUG HOWARD
04111	GORDY HOWARD
01336	MARK HOWARD
02650	ROBIN HOWARD
01053	V.M. HOWARD
04407	WILLIAM HOWARD
03979	MR. & MRS. RALPH HOWARTH
04462	DANIEL HOWE
04295	PAUL H. HOWE
03518	DONNA HOWELL
03601	NANCY HOWELL
04810	JOHN R. HOZLUTT
01699	DAVID HUBBARD
03923	L.K. HUBBELL
01071	BESSIE HUCK
04625	LAWRENCE HUDETZ
04605	RON HUDGINS
01968	OTTO & CLAUDIA HUDRLIK
04217	BETTY JO HUFF
02662	DONALD HUFF
04141	ROBERT D. HUFF
04344	LOTTIE HUFFORD
04266	RICHARD HUFFORD
03480	ADRIAN HUGHES
01064	CHAUNCEY HUGHES
04066	CHLOE & JOE HUGHES
00596	GWEN M. HUGHES
01640	DR. LAWRENCE V. HUGHES
02345	STEVEN D. HUGHES
01671	CURTIS HUGHY
03672	ROGER HUIRAS
01602	ROBERT W. HUKAR
03116	BRIAN HUKARI
00601	DON HULL
00619	LARRY HULL
00772	MOLLY HULL

00424	RUBY B. HULL
00425	SHARON M. HULL
00634	TRUDY HULL-HAGER
00739	MIKE HULSE
03432	WILLIAM L. HULSE
04794	WILLIAM L. HULSE
02361	DAVID M. HUMBERT
00012	WALLACE HUMMASTI
03244	DANNY HUMMEL
04634	FRAN HUNNICUTT
03169	CATHARINE HUNT
00998	JAMES HUNT
00263	WAYNE HUNTER
02960	PENNY HUNTING
01026	ALYCE HUNTSINGER
01034	DAVID HUPTMAN
02115	CHUCK HURLEY
02969	JIM HURST
04062	HENDRICK L. HUSBY, JR.
02009	R. B. HUSERSANN
00461	KIMBERLY L. HUSK
02797	DELBERT D. HUSKEY, JR
02757	LARRY D. HUSKEY
03016	EMILY R. HUSLANDS
04063	RICK L. HUSMANN
03509	DENNIS R. HUSTON
01179	KEVIN HUSTON
03753	THOMAS C. HUSTON
03596	FRED HUTCHINSON
04730	JOSEPH D. HUTCHINSON
02034	MELVIN J. HUTT
00799	ROGER A. HUTTO
00618	PATRICIA HUTTON
01746	G. N. HYBERTSEN
01745	JEAN HYBERTSEN
02002	VERNON HYMAS
04872	ELINOR HYNER
03651	SMITH ICON
04531	LARRY R. ILES
04750	WAYNE ILLINGWORTH
03955	ERNESTO INCLAN
02673	NELLA INGRAM
03613	DENNIS INMAN
03630	LUTHER D. IPOCK
03995	DEBORAH IRELAND
04064	TIM IRELAND
03196	GENE W. IRISH
01045	PATRICIA IRISH
01781	DAN IRVING
03437	GINNY IRVING
03696	DOTIE ISENBERG
00675	DONALD RAY ISENBERGER
04244	SCOTT ISLER
03855	CHAPLES ISON
03984	JOSEPH ISTRAN
00661	DAVID E. IVANOFF
01623	MARCUS IVERSON
04739	JIM IZETT
04651	LOIS IZETT
04746	PAUL L. JABS
02937	LARRE J. JACKSON
02696	PAUL N. JACKSON
02633	SANDRA JACOBS
00309	STANELY L. JACKSON
03614	KIM JACOBSEN
03613	KIMBERLY JACOBSEN
01202	ALAN C. JACOBSON
03292	CARL JACOBSON
00903	TIMOTHY D. JACOBSON
04676	ERINN M. JAKSICH
04692	ALAN & JANA JAMES
04152	BOB JAMES
04615	GEORGE I. JAMES
03106	JIM JAMES
02239	LORIE JAMES
02243	ROGER L. JAMES
04639	SONDRA JAMESON
01554	JOHN JANNSEN
01966	CARL JANSEN
00914	MICHAEL JANZEN
01013	MICHAEL JANZEN
00043	JEFF JAQUA
02613	JEFF M. JENDRO
00675	ALICE JENKINS
00676	WALTER S. JENKINS
01734	JIM L. JENKS
01794	LINDA M. JENKS
02403	JIM JENNESS
00638	CAROL JENSEN
00045	DAVE JENSEN
04667	JEFFREY JENSEN
03623	JUNE C. JENSEN
03091	LESLIE E. JENSEN
02988	MILDRED JENSON
01414	J. H. JEPPESEN
01703	VERNON N. JEPSEN
03609	WADE L. JESSEE
03767	RAY JESSER
03769	TROY JESSER
03401	VERONICA L. JESSER
03735	R. G. & MARY LOU JESSUP
04753	ROBERT JODOIN
01617	WAYNE JOE
03344	SUE JOERGER
03630	DAVID JOHNK
00766	HENRY T. JOHNS
02047	CLIFF JOHNSEN
01073	ART JOHNSON
03662	BARBARA JOHNSON
03205	BRANDY JOHNSON
00169	DAN M. W. JOHNSON
02765	DEWANE D. JOHNSON
02764	DON JOHNSON
00615	DONALD D. JOHNSON
04634	DOYLE W. JOHNSON
01736	ELAINE M. JOHNSON
04601	GERTRUDE JOHNSON
03331	IDA JOHNSON
03622	JAMES A. JOHNSON
01372	JANE S. JOHNSON
03724	JEROME JOHNSON
03629	JOSEPH AARON JOHNSON
01718	KEITH S. JOHNSON
00639	LINDA JOHNSON
02198	MARK A. JOHNSON
02785	MARTHA V. JOHNSON
02048	MARTIN JOHNSON
03808	MARVIN JOHNSON
00092	PAM JOHNSON
02622	PETE JOHNSON
03614	PHIL H. JOHNSON
00992	PHILLIP JOHNSON
02431	R. D. JOHNSON
01559	R. L. JOHNSON
04743	R. M. JOHNSON
00228	RANDY JOHNSON
00054	RAYMOND JOHNSON
02240	RENDI JOHNSON
00982	RICHARD JOHNSON
00166	RICHARD L. JOHNSON
03977	ROBERT JOHNSON
01622	ROBERT OTTO JOHNSON
02323	RUTH JOHNSON
02546	TERRY JOHNSON
00127	TIM JOHNSON
00460	VERA M. JOHNSON
03853	WILLIAM JOHNSON
01611	RICHARD W. JOHNSRUD
04741	HELEN JOHNSTON
02707	LINDA T. JOHNSTON
02700	PAT JOHNSTON
01519	V. W. MONTE JOHNSTON
03157	W. K. JOHNSTON
01706	DENNIS JOLIN
00698	JAMES O. JOLLEY
00027	RUSS JOLLEY
04686	R. K. JONAS
04567	BRIAN JONASSON
03243	TERRY JONDAHL
04173	MR. & MRS. ALVIN JONES
00184	BRAD JONES
02643	BRENDA JONES
04765	CHET C. JONES
01019	DARREL JONES
00494	ELIZABETH JONES
02749	GARY JONES
04060	GREG JONES
04450	JAMES JONES
03172	JOHN L. JONES
02624	LALONI JONES
02377	LARRY D. JONES
03611	LARRY D. JONES
02247	LINDA Y. JONES
03273	MARTHA ANN JONES
01328	MICHAEL JONES
04570	MICHAEL JONES
04698	MICHAEL S. JONES
02153	MIKE JONES
00413	ROBERT JONES
01744	ROBERT W. JONES
03025	RODNEY JONES
02750	SANDRA JONES
03569	ROCKEY D. JORDAN
01650	DONALD L. JOSLYN
00416	LELAND D. JOSSY
02171	CHARLENE JUMPER
02208	MICHAEL JURAS
04601	DENNY JURVAKAINEN
00304	DANIEL L. JUSTMAN
04643	KAS KACHMAREK
04219	COLLIN KAEDER, M.D.
02695	MARJORIE KAGEYAMA
02747	RIT KALEY
01565	ART KALMEN
01648	JANE D. KAMMERZELT
04242	VAN R. KANE
02174	JAMES A. KANNE
00002	BETTE LOU KARAMANOS
00246	JOSEPH D. KARAS
04595	AMY KARECKI
03616	JAMES D. KARP
04655	W. L. KARRER
01440	KAUFMAN'S STREAMBORN FLY SHOP
04694	JAMES R. KAUPPILA
04607	STUART KAWACHI
03066	DAVID A. KAY
03970	THOMAS KAYE
04616	GORDON KEANE
02001	KEITH KEARCHER
01716	KENNETH KEARNEY
04369	DANIEL KEARNS
01644	SCOTT R. KEEP
03196	JOHN M. KEHILI
02309	JAMES KEHL
03917	BILL KEIL
04333	DAVID KEISER
04254	LARRY KEITH
03152	BLANE KELLER
01676	ROBERT R. KELLER
00346	EDWARD M. KELLY
01272	GLENN L. KELLY
04569	IRENE KELLY
03662	KEVIN KENAGY
02471	MARCIA ANN KENDALL
00360	TERRY L. KENNEDY
03446	HELEN M. KENOYER
04291	CHARLES A. KENT
03019	EHRIC KENT
02697	R. D. KENWARD
04606	MELVIN W. KENWORTHY
04783	LILLIAN KENYON
01662	AL KEPHART
04269	AL KEPHART
01636	OWEN KEPHART
03661	SHANNON KEPHART
03436	KIMBERLEE KERLEY
02461	MILDRED F. KERR
04394	RICHARD C. KERR II
02416	SHIRLEE KERR
04327	STEVEN KERR
02481	G. H. KERRY
02302	M. E. KERSHAW
03164	LESLIE D. KESLAR

00024	KURT KESSLER
02042	CHRIS KETCHAM
03472	RODNEY KEYSER
04567	CAROL KIEL
03565	STEVEN KIELING
03098	ESTHER KIGGINS
03099	JIM KIGGINS
03079	LESLIE C. KIGGINS
01527	JAN MILLER KILGORE
03960	L. P. KILLEEN
03872	STEVE KILLIAN
04463	MONTE KILLINGSWORTH
00962	PHILIP H. KIMERY
03775	MARK KIMSEY
03814	JERRY KING
03750	RICHARD KING
00200	RONALD J. KING
00041	ANNE KINNAMAN
02356	DEAN W. KINNE
02417	M. LAVELLE KINNE
01243	REED KINNEY
03700	RICHARD KINNY
01171	JOHN KINSEY
04559	BOB KINTIGH
03113	MARGIE KINTZ
03346	BERTHA KIRBY
03347	RALPH KIRBY
02595	ROY KIRBY
02596	SANDY KIRBY
01614	BOB KIRCHER
01655	S. E. KIRCHMEIER
01116	JEFFERSON KIRIORD
04311	GEORGE KIRK
00226	WILLIE KIRK
04303	JAMES KIRKMIRE
03066	GOLDA KIRKPATRICK
04204	ALEX KIRNAK
03491	LEONARD KIRSCHNER
03590	CRAIG KISHPAUGH
03062	VALERIE KITCHEN
04611	BRUCE KIYOKAWA
04479	R. K. KLAAS
01161	BRETT KLAGES
01276	GERHARD KLAGES
02411	TRUDY KLANTCHNEK
00561	N. KLAPPRICK
02650	ART KLASSEN
02619	ANN KLEIN
02623	ANTHONY C. KLEIN
03618	KARL & INGRID KLEINBERG
00439	MICHAEL KLEINBURG
03755	DENNIS KLEPPE, JR.
01433	TOM KLINGBEIL
00605	CLAIR KLOCK
01097	JEANETTE KLOOS
04661	TOM KLOSTER
04507	RONA KLUEH
01010	JUDITH KLUMP
01066	STEPHEN KLUMP
00632	AUTHUR L. KLUNDT
03117	CLEMENCE KLUTHE
02926	JOAN K. KNAPP
00965	GARY KNIGHT
02635	JEFF KNIGHT
00901	A. C. KNISKERN
00646	M. M. KNISKERN
00607	ERROL ROY KNOBF
00606	SUSAN KNOBF
01550	GARY R. KNOPP
04652	GEORGE E. KNOWLES
04653	GEORGE E. KNOWLES
03064	RICHARD J. KNUTSEN
04606	DICK KOBAYAS
03618	LARRY KOBER
03678	MICHAEL LYNN KOBINSON
03722	DANIEL KOCH
02567	DANIEL E. KOCH
00239	CHUCK KOCHER
02492	JOSEPH D. KOCHIS
01602	PAUL J. KOEH, SR
00666	KURT R. KOEHLE
01393	E. F. KOESTER
02024	LEONARD G. KOETZ
00036	MELVIN C. KOFAHL
03007	SUSAN KOFAHL
03204	C. KOHLER
00746	RICHARD L. KOHNSTAMM
02906	WARREN F. KOLEN
00132	EARL KONVOLER
00662	GEORGE KOOS
02563	ROBERT J. KOOS
04093	FRED KOPATICH
00162	B. R. KOPPLER
00145	D.E. KORROCH
02935	JAMES KORTH
00123	JERRY KOSCHNICK
04101	LINDA & RON KOSCIELAK
04367	BARB KOTT
04561	JOHN KOTT
04038	MARK KOUMENTIS
03101	MR. & MRS. F.D. KRAMER
04185	C. DENNIS KRAMER
01847	JERRY L. KRAUSE
03652	DUANE KRAXBERGER
03154	WALTER S. KRAXBERGER
00798	KEN KREBS
00362	KEVIN P. KREFFT
03611	KURT S. KREMERS
00075	ROBERT F. KROHN
04489	JUDY KROMER
04300	L. KROMER
00600	JOSEPH KRUPICKA
01136	JOSEPH KRUPICKA
01137	PENNY KRUPICKA
01955	DAVID H. KRUSE
01509	LEONARD KRUSHEL
02636	JOHN KRUSSOW
00208	ROBERT KRUZ
02625	JEANNE A. KRYOKAWA
01360	KUBIAK
02479	DEWEY KUBITSCHECK
04211	ROBERT KUHLKEN
03266	MAIJA KUHLMAN
03429	STEVEN KUHLMAN
01905	KEITH & GAIL KULLBERG
03166	GORDON KUNDERT
02964	EDGAR A. KUPILLAS
03469	GARY KURTZ
04030	JOSEPH KURTZ
02561	FRED KUSACHI
01797	ALBERT F. KUSCHKE
01210	MARK KUTSCH
03966	MARTI KUTTER
04516	KELI KUYKENDALL
00610	GENE KUZMAN
01663	ROD KVAMME
02556	NANETTE LA DOUCEUR
01622	BILL LA RUE
04573	R. LARRY LA RUE
00236	HARRI LAAKSO
01449	JIM LABBE
03036	TED LABBE
00616	ARTHUR M. LABROUSSE, JR.
03123	M. LEON LACEFIELD
00260	DOUGLAS LADD
04626	ROBERT LADIG
00337	ERNST LAEMMERT
04075	MICHAEL LAFFERTY
01170	CASEY LAFOLLETTE
04351	LEE AND SUSAN LAFONTAINE
00296	JEFF LAHTI
00297	JENNIFER LAHTI
02081	LARRY LAHTI
03632	KENNETH L. LAIRD
03780	PAM LAIRD
02414	MARIDENE LAKEY
02524	RONALD LAKEY
03236	BOB LAMB
00265	PHILLIP E. LAMMI
00552	RALPH W. LAMON
03103	RALPH LAMONT
01731	MITCHEL D. LAMPA
03664	STEVE LAMPA
02934	J. V. LAMPMAN
01516	THOMAS B. LANCASTER
00079	PETER M. LANCE
02930	ALAN LANE
03004	ALAN LANE
00108	JAMES LANE
04133	NORMAN LANE
03249	RICK LANE
02366	LOREN LANEY
03356	CARL M. LANG
00940	GARY LANGER
01391	BRUCE LANGMADE
00383	JUDGE & MRS. VIRGIL LANGTRY
01403	CLIFF LANSDON
02022	FRED J. LANTZ
00967	VALERIE LANTZ
00350	MICHELE LAPLANTE
00351	PAUL LAPLANTE
00959	TONY LAPOINTE
00964	BONNIE D. LAPP
03900	ROBERTO LARA
04494	DEBRA E. LARAWAY
02117	RICHARD LARCH
02119	SYLVIA LARCH
01439	CLAUDIA LARISON
01363	JAMES M. LARREW
00224	DONALD J. LARSON
00207	MARJORIE LARSON
02050	ROBERT W. LARSON
03647	JEFFREY L. LASTER
00058	BRIAN LATHROP
00181	RICHARD E. LATHROP
03222	LEON LAUCIRICH
02490	RON LAUGHIN
02489	CLAUDE LAUGHLIN
00381	FRANK A. LAUGHLIN
00507	FRANK A. LAUGHLIN
02069	ROLAND LAUGHLIN
01470	PHILIP CRAIG LAURITZEN
00974	EROLYN LAVENDER
00775	PAUL R. LAVER, JR
01987	G. A. LAWE
03616	JOSEPH LAWTON
04490	LOIS LAY
00692	ALLEN LAYMAN
00958	ALLEN L. LAYMAN
00696	LESTER L. LAYMAN
01701	SAM LAYMAN
00028	LEROY LAYTON
01626	JIMMY A. LE BRUN
01625	LINDA L. LE BRUN
04205	URSULA K. LE GUIN
04253	AL LE PAGE
02353	JOSEPH R. LEACH
00506	CHARLES D. LEACHMAN
00862	KASEY LEBECHUCK
04525	JIM LEBO
02470	BETTY LEDEZMA
02358	CHRIS LEE
02025	F. DUANE LEE
02412	HAROLD J. LEE
00642	MARIAN LEE
02752	ROBERT LEE
02754	SHIRLEY S. LEE
01967	T. LEEDS
00566	DOUGLAS LEEDY
02720	TONY LEET
01061	D. LEEVER
01256	DUANE LEEVER
01041	RICHARD LEFEVER
00215	SONYA LEFEVERS
01319	MILFORD R. LEFFEAU
00943	JOHN LEFFEL
01629	JOHN LEFFEL
02456	ED LEFFERTS
00742	M. LEGER
04047	CHARLES LEGG
01968	RICK LEGORE
04161	LOUISE LEHMER
01546	LAYTON R. LEHTO

02777	DAVE LEIBBRANDT
02147	MONTE C. LEIBBRANDT
02071	LOREN K. LEIBLEIN
02070	ROB LEIBLEIN
02069	SUSAN LEIBLEIN
00994	WARREN LEITZ
00874	J. A. LEMASTER
00115	BETSY LEMATTA
01875	JAMES R. LEMATTA
04511	ERIC LEMELSON
02636	JAMES D. LEMERY
03972	VIRGINIA LEMON
03859	MARK LENCIONI
00859	FLOYD LENHARDT, JR.
00823	FLOYD LENHARDT, JR.
04040	TONY LENT
01288	V. LENT
03220	STEVE LENZER
01608	BENNY LEONARD
04417	EARL LEONARD
01616	EUGENE W. LEONARD
04904	HELEN M. LEONARD
04411	JEFF LEONARD
03758	NICK LEONARD
01129	OPAL LEONARD
01638	VEVA LEONARD
02919	J. R. LEPIN
02453	MARIA J. LESLIE
00299	ARCHIE LESTER
02260	C. A. LESTER
02133	FRANK E. LESTER
00301	VIRGINIA P. LESTER
01039	ED LETTENMAIER
03000	NORBERT LEUPOLD, JR.
02484	DAVID LEVEL
04230	ELENOR A. LEVIN
03571	CURTIS LEVY
03573	LOIS LEVY
01866	STEVE LEVY
01229	KEN LEW
00485	NANCY S. LEWALLEN
01479	DENNIS LEWIS
04884	GEORGE LEWIS
02329	JIMMIE A. LEWIS
01737	JOE L. LEWIS
00186	LUANN LEWIS
04561	GONZALES LIBERTAD
02165	CONSTANCE M. LICH
03537	RICHARD GUY LIEN
03178	ROBERT E. LIEURANCE
03710	SHIRLEY LIGHTHEART
03656	JAMES R. LIHGELBACH
02075	GERALDINE LINDBEIG
00802	BARBARA J. LINDER
02951	GLENN L. LINDER
00789	MAX R. LINDER
03845	HARRY LINDQUIST
01685	ROD LINDQUEST
00820	ANGUS M. LINDSAY
00373	BARBRA LINDSAY
04055	JOHN G. LINEL
03088	ELLEN LIPPMAN
01095	MICHAEL LITT
04312	ANN LITTLEWOOD
02078	KIM R. LITTRELL
00778	RICHARD & BETTY LIVINGSTON
00776	ROGER & LOUISE LIVINGSTON
00111	BOB LLOYD
00138	JEAN LLOYD
00661	M. K. LLOYD
00165	MACK LLOYD
02562	MINDY LLOYD
03145	MIKE LOCKE
01760	NORMAN LOCKE
00107	KIN LOCKMAN
00104	LEROY LOCKMAN
00811	DAVID LOCKWOOD
02566	LEON P. LOE
02813	ANNA BELLE LOGAN
03061	KEN LOGAN
04812	RICHARD L. LOGAN
02614	VERN LOMWOOD
02258	BRENDA LONG
02252	DEANNA LONG
01444	MERIDITH LONG
02253	TAMI LONG
01715	WM. H. LONG
02284	NORMAN LOOP
01613	BETTIE M. LOPPNOW
00120	HAROLD LORENZO
04871	B. J. LOTT
00124	DERRY LOTT
01315	HELEN LOTTRIDGE
00804	MRS. A. LOUCKS
03744	ROBERT LOUCKS
03667	BARBARA LOURY
03179	HAROLD M. LOVE
04264	KEN & RUTH LOVE
04028	NORMAN LOVE
00294	THOMAS R. LOVEJOY
01942	PATRICIA LOVELAND
01378	E. C. LOVELETT
02301	ROBERT LOVELLE
00251	ELIZABETH M. LOVELY
00522	ROBERT F. LOVELY
01084	MR. & MRS. ROLLAND LOVELY
03443	LINDA L. LOVETT
01146	THOMAS LOVING
02798	EVERETT L. LOWE
02192	GARY R. LOWE
02072	GENEVIEVE H. LOWE
02971	IRA L. LOWE
02261	KENNY LOWE
02685	PHYLLIS A. LOWE
02028	VINCE LOWEN
02778	DEBRA M. LUCAS
02380	MICHEAL A. LUCAS
00437	VIRGIL M. LUCAS
00349	INA LUCHT
00348	JEANNETTE LUCHT
00354	LINDA LUCHT
01405	WAYNE LUDEMAN
03083	JAMES M. LUDWIG
02996	KAREN LUDWIG
04148	MARK E. LUEDTKE
00704	DELMER & JOIEN LULAY
02019	DONALD LULAY
01233	RON LULUKE
04649	BRUCE LUMPER
03594	ROBERT R. LUMSDEN
01065	DICK LUSINK
03216	GORDON LUSK
01774	LOWELL LUTE
00619	STAN LUTGEN
02861	ERNEST A. LUTHER
02257	RANDOLPH L. LUTHER
00790	TOM LUTTRELL
02678	TOM G. LUTZ
00247	TOVAH LUZAROFF
01739	MICHAEL J. LYGHOLN
04458	MARK LYMAN
00646	RON LYMAN
02172	TOM LYNCH
04693	WILLIAM LYNCH
03513	GERALDINE LYNN
03512	L.E. LYNN
03511	SCOTT LYNN
01825	LYONS
02732	GEORGE T. LYONS
01769	GEORGE W. LYONS
02613	IDA L. LYONS
00149	LEONARD W. LYONS
02493	PATRICIA E. LYONS
00909	SHIRLEY LYONS
03309	TOM LYSE
01435	CAROL LYSEK
01767	KIMBERLEY J. LYSELL
04682	LYNNE LYTWYNIC
00447	LORNA MABEN
00455	MARK MABEN
02244	M. MAC KINNON
01324	SUZANNA MACK
04624	FRAN MACKEY
01490	CRAIG J. MACKIE
02581	MIKE MACKIN
00716	JOHN MAGILL
00404	JULIE MAGILL
00405	ROBERT MAGILL
01308	DAVE MAGIN
01758	TIKEY MAGIODOS
00723	JOE MAGNUSON
01107	TED MAGNUSON
04777	EDWARD MAGUIRE
01168	JOHN MAHAM
00615	MIKE & EVA MAHONEY
02100	EARL R. MAINWARING
04484	RAY MAINWARING
04248	LYNN MAJOR
01434	MARK R. MALCO
00147	T. H. MALLERY
04617	JAMES MALLON
04795	JOHN MALONE
01358	JOEL A. MALONEY
04095	LINDA MALONEY
04708	MICHAEL MALONEY
01880	NELLIE MALONEY
00334	PATRICK B. MALONEY
03930	EUGENE E. MALTZEFF
02733	WALLACE L. MAN
02222	JAMES B. MANAFEE
01206	H. H. MANASCO
04041	MICHAEL MANION
04167	PETER MANION
04567	TOM MANKE
02000	KIM MANN
04803	RICHARD A. MANN
04799	BRANDT MANNCHEN
00599	MIKE MANSFIELD
00093	DON MAPLES
03807	MIKE MARCHAND
01707	JEFFREY MARDRIN
00328	MARION CO. BOARD OF COMM
04365	JOHN B. MARKS
01150	E.E. MARKWELL
01139	ELMA MARKWELL
01138	VIOLET MARKWELL
02950	KENNETH D. MARPLE
01209	JOSEPH R. MARR
03792	STEVE MARR
03928	ANN MARRA
01643	NORMAN MARRS
04298	NORMAN T. MARSH
01355	JAMES MARSHALL
00343	NED MARSHALL
02589	W. R. MARSHALL
04695	B. MARTIN
04762	CHARLIE MARTIN
00663	CHARLES MARTIN
01090	DALE MARTIN
03208	DAVID MARTIN
00845	GERALD W. MARTIN
03978	HENRY MARTIN
02079	HERBERT R. MARTIN
04255	JERRY MARTIN
03657	JOHN L. MARTIN
03691	KEN A. MARTIN
00563	KENNETH D. MARTIN
03693	MARCY MARTIN
02477	RICHARD L. MARTIN
03575	RICHARD L. MARTIN
02373	ROBERT E. MARTIN
00655	SHARON MARTIN
03379	STEPHEN MARTIN
03393	THERESA MARTIN
01234	PAUL M. MARTINAK
00192	PETER MARTINDALE
01904	PETER H. MARTINDALE
03238	ED MARTINEZ
03581	DONNA MARTINSON
03030	MARLA MARVIN
04764	N. K. MARWAH
04225	E.L. MARXER
02102	DENVER MASON

02803	DENVER MASON
02802	EDNA J. MASON
00476	JUDY MASON
00952	MARY B. MASON
01309	MARY B. MASON
01946	MICHAEL DONOVAN MASON
03276	SEAN MASON
04745	CARL F. MASSIL
03024	BONNIE MASTEL
03422	BERNICE L. MASTERS
02402	JUDY E. MATHENY
02413	RAY D. MATHENY
04072	JACKIE M. MATHES
02397	BEVERLY MATHEWS
03929	DANIEL W. MATHEWS
02774	DENNIS MATHEWS
02233	NADINE MATHIS
03898	RON MATHIS
02965	E. C. MATSON
01728	BOB MATTECHECK
02546	MIKE MATTHENS
00288	SARA K. MATTHEWS
00289	W. A. MATTHEWS
01865	DENNIS MATTINGLY
04371	TIMOTHY G. MATTSON, PH.D.
04104	PAUL MAUGH
01311	VERN MAULDING
01012	DOUG MAURER
04182	BRET MAVERICK
01453	ANDREA L. MAXWELL
04408	DAVID MAXWELL
03760	PATRICK W. MAY
04081	ROBERT S. MAY
01342	PETE MAYER
01092	TIM MAYER
01536	DONA MAYHEW
04847	WERNER J. MAYR
00656	STEVEN MAYS
00972	CHRISTINE MAZOUR
03534	JAMES MCBROOM
03703	JOHN MCCABE
02110	DAREN MCCAFFERTY
02206	MARTHA MCCAFFERTY
02056	BOB MCCALLUM
03466	KATHLEEN MCCANN
01638	J. MCCARTHY
04454	KATE R. MCCARTHY
02012	JOHN MCCARTY
04686	JAMES E. MCCAULEY
03719	R. J. MCCLINTOCK
03494	GRANT MCCONCHIE
04361	DIANA MCCONKEY
03749	KEVIN MCCORMICK
02694	ELIZABETH MCCOY
03348	CHARLIE MCCRAW
04045	BETTY MCCUTCHEON
04439	JOHN N. MCCUTCHEON
04345	PAT MCDERMOTT
04261	SCOTT MCFARLAND
04672	LINDA MARKLEY MCGAVIN
02837	WAYNE MCGEE
03269	LAURIE WATSON MCGILLIVRAY
01941	BILL MCGINNIS
04776	PETER A. MCGOVERN
02646	I. CLEO MCGRANN
02436	J. P. MCGRANN
04565	EUNICE MCGRAW
04675	JON MCLAUGHLIN
04774	BYRON W. MCLEAN
04229	MICHAEL V. MCLUCAS
02143	MARK G. MCNAIR
02574	GERALD MCNEILL
02176	L. F. MCNEILL
02366	JOEL A. MCNERNEY
02152	KATHY MCNERNEY
02255	RAMONA MCQUEEN
03746	DAVID MCREYNOLDS
00954	LEWIS L. MCARTHUR
00632	ROBERT A. MCBAIN
00672	RICHARD H. MCBEE, PHD
02653	MIKE MCCAFFERTY
02964	ALAIR MCCARTY
00345	FRANCIS MCCLANAHAN
00365	DONALD S. MCCLAVE
01557	DICK MCCLURE
00534	LANCE MCCOLD
01973	FREMONT MCCOMB
01200	DAVE MCCONNELL
01242	PAT MCCOWWELL
01582	ADAH MCCULLOCH
01583	JOE MCCULLOCH
00186	GARY MCCULLOUGH
00654	CAROL L. MCDANIEL
01929	CINDY MCDEVITT
04866	GARY MCDONALD
04309	JULIE MCDONALD
00014	MARSHALL MCELHERAN
01618	JOE MCELHIMNEY
04803	JAMES L. MCFADDEN
02755	DAVID C. MCFALL
02751	THOMAS L. MCFALL
01867	JAKE MCFARLAND
01154	KENNETH MCFARLIN
00896	DON MCFETERS
01099	PATRICK MCGAUGHEY
03032	CHARLES I. MCGINNIS
00995	VICKY MCGINNIS
00633	DAVE MCGUIRE
00695	TIM MCGUIRE
00362	BOB MCISAAC
04514	JAMES MCIVER
04895	RAYMOND MCKAY
01402	EDGAR MCKEE
00787	STEVE MCKEE
04879	JOHN MCKENDRICK
01323	KATHERYNE MCKENZIE
01014	LILAS MCKENZIE
01151	LARRY MCKIBBIN
00700	RUSSELL J. MCKINLEY
01827	MARK MCKINSTER
00777	CAROLYN T. MCKLAG
00791	JACK R. MCKLOY
04092	D. MCLAUGHLIN
01677	KIM MCLAUGHLIN
03015	MIKE & MARY MCLAURIN
01664	ELMER MCLULLOCH
01960	CHARLES E. MCMANAMA
04533	BILL MCMANOS
03056	GENE MCMULLEN
01522	KEVIN MCMULLEN
01521	SHASTA MCMULLEN
00456	SEAN MCNABOLA
00429	ALLAN J. MCWILLIAMS
00809	GRANT MEAD
04013	RONALD MEADORS
04792	RONALD MEADORS
03319	JAMES MEADOWS
00187	JOE MEADOWS
00180	KATHLEEN M. MEADOWS
04789	SUSAN MEDAK
03445	JEAN MEDDAUGH
04445	JILL MEEK
01757	JOHN ROBERT MEEK
02048	MARGARET MEEK
03414	ROBERT Y. MEEK
01032	ROBERT MEIER
00040	GILBERT MEIGS
00836	MELVIN MEIROSE
02404	LESLIE M. MELBY
04678	SEAN MELE
01294	ANITA MELILLO
02382	ROBERT C. MELLOWAY
01237	KENNETH L. MELSON
00824	DENNIS MELSTROM
04324	ELLEN MENDOZA
02400	FAYE MENEFEE
01112	G. MENESTRINA
03478	DAVID MENICOSY
00486	RICHARD MERCATANTE
01628	W. R. MERCHEN
03624	JIM E. MERIFIELD
01304	MAX MERLICH
00126	WILBUR & MABEL MERLICH
01963	TOM MERRICK
04292	THOMAS MERRITT
02658	SUSAN MERTZ-KOONTZ
00356	LEWIS A. MERZ, JR.
02014	ROBERT MERZ
04015	MELITON MESA
02372	DAVID H. MESSENGER
04078	S. MESSICK
03263	BOB MESSINGER
02111	MIKE MESSMAN
03567	STEPHEN METZ
00036	MERRIANNE METZGER
02058	EARL MEYER
04652	F.A. MEYER
02911	ROBERT MEYER
01790	ROLAND MEYER
00639	WILLIAM H. & NANCY MEYER
04771	HAL MEYERDIERK
02512	ANDY MEYERS
02600	DENISE MEYERS
04049	DENNIS MEYERS
02506	DORIS MEYERS
02901	FRANCES L. MEYERS
02511	GLEN MEYERS
02910	JOSEPH O. MEYERS, JR.
02295	MERTON E. MEYERS
02324	MERTON E. MEYERS
02287	RANDY MEYERS
02271	RAY L. MEYERS
02789	RICHARD A. MEYERS
01459	RONALD MEYERS
00948	VALERIE D. MEYERS
02304	W. L. MEYERS
01149	JEFF MICHAEL
01143	JOE MICHAEL
01144	RAMONA MICHAEL
01141	WANDA MICHAEL
00925	SUSAN MICHEL
04757	DANIEL MICHOLA
01693	BELINDA M. MIDDLETON
03765	MR. & MRS. T. W. MILFORD
03129	ROLAND MILL
01532	JAMES L. MILLAN
01756	GALE MILLARD
01986	A. W. MILLER
02528	BETH MILLER
02136	BILL MILLER
00427	BOBBIE MILLER
03786	BOBBIE MILLER
03550	BRIAN MILLER
02223	CARMILITA MILLER
04208	CYDNEY S. MILLER
02099	DARRELL MILLER
04378	DAVID MILLER
04019	DON MILLER
04676	GREGORY A. MILLER
02956	IVA L. MILLER
00880	J. L. MILLER
02332	JAMES MILLER
03544	JAN MILLER
02276	JEFFREY B. MILLER
02499	JOHN MILLER
03406	JOSEPH L. MILLER, JR.
02516	KATHRYN MILLER
04266	KEN MILLER
02580	KENNETH DEAN MILLER
02659	LAVERN MILLER
02006	LINDA MILLER
02510	LOREN MILLER
01662	MABEL L. MILLER
00761	MARK D. MILLER
01275	MICHAEL MILLER
01236	MICHAEL E. MILLER
02939	PATRICK MILLER
01216	RICHARD H. MILLER
04570	ROBERT E. MILLER
03931	SUSAN MILLER
00754	TINA MILLER
01172	WAYNE MILLER
02632	WAYNE MILLER

03826	MICHAEL J. MILLIGAN
02273	DARRELL MILLS
02804	LINDA MILLS
02792	RICHARD M. MILLS
03506	SHARON MILLS
01672	VICKE E. MINICA
04236	JIM MINICK
04914	JIM MINICK
02706	CECIL C. MINNICH
01251	CLETUS MINTEN
03055	VICKI G. MINTKESKI
01952	WALTER C. MINTKESKI, P.E.
03141	KENNETH MITCHELL
04784	LARRY MITCHELL
01604	HERMAN C. MITTEN
02905	HARLEY L. MITTS
02963	JOCELYN L. MITTS
01534	PAT MIZE
01535	PHYLLIS J. MIZE
03583	WINIFRED MOE
04724	RONALD MOHNING
03484	DR. & MRS. EDWARD MOHNS
03697	ANGELA M. MOHR
02907	BERNICE C. MOLTHER
01593	WALT MOMBERY
02588	ANNE K. MONAGHAN
01680	DON MONAGHAN
02589	PAT MONAGHAN
02841	SILVIA MONAS
04849	DAVID R. MONETT
00782	C. G. MONIGAN
01375	JOSEPH K. MONSEN
01958	CAROLYN ANNE MONSON THOMAS
02219	BRIAN MONTAVON
02879	DONALD W. MONTE
04320	FLORENCE MONTGOMERY
03868	KEVIN MONTGOMERY
03071	ROBERT L. MONTGOMERY
00398	DALE L. MOON
01717	EDGAR E. MOON
02604	GUY MOONEY
04302	ANN MOORE
00284	BOB MOORE
04079	ALLEN E. MOORE
03364	BOBBY L. MOORE
03410	JACK B. MOORE
00847	JOHN & BARB MOORE
00442	MR. & MRS. KEN MOORE
00531	KEN MOORE
02462	KEVIN MOORE
03326	LARRY MOORE
04429	LARRY MOORE
02734	LINDA L. MOORE
03092	LOLA MOORE
04374	MARCIA A. MOORE
02687	MICHAEL J. MOORE
00843	MIKE MOORE
02538	RAYMOND R. MOORE
04129	RICHARD MOORE
00418	RICHARD L. MOORE
02970	SAM MOORE
00112	SUSAN MOORE
03093	THOMAS O. MOORE
03415	ZEPHYR MOORE
01465	D. J. MORAN
01466	DORMAN D. MORAN
04500	JACK J. MORBY
01274	JEAN MOREFIELD-HAMANN
00325	CARL MOREHOUSE
00465	JUNE MOREHOUSE
04031	FELIPE MORENO
03866	DENNIS MORGAN
03339	JAMES MORGAN
02704	JOHN C. MORGAN
03990	JOHN MORGAN
04051	KAREN MORGAN
00353	LYN MORGAN
02904	CLAUDE & BONNIE MORIN
02063	DOROTHY MORLEY
00740	RALPH W. MORONO
04862	ANTHONY B. MORRELL
00406	CHRISTINA MORRIS
01796	JAMES R. MORRIS
02369	PATRICK T. MORRIS
00191	PETER B. MORRIS
00407	RICHARD MORRIS
01646	T. A. MORRIS
03794	TOM MORRIS
03234	WILTON MORRISON
01244	DALE E. MORRISSETTE
03322	BETTY MORRISSEY
02993	TOM MORTINSON
01653	RANDALL H. MORTON
04252	REX C. MORTON
04367	TODD MOSES
02015	ARTHUR MOSHER
01088	LEONA MOSHER
00505	FLAVIA MOSHOFSKY
03028	R. B. MOSS
01601	ELMORE MOSTUL
04729	LEO E. MOTTAU
01692	ROBERT E. MOULTON
01208	WARREN MOYER
03302	GUNTHER MUELLER
01359	DEANNA MUELLER-CRISPIN
03400	JODI A. MULLENNAX
03008	JAMES D. MULLINS
03990	JEANETTE MULLINS
03986	JIM MULLINS
00306	EVERETT D. MULRONY
02109	S. G. MUMA
04700	D.W. MUMPER
00430	JAMES E. MUNDELL
00635	MARGARET M. MUNDELL
01185	LARRY MUNDY
04478	SHANNON MUNGER
02230	ELTON R. MUNRIE
03091	GLENN MUNRO
01859	AULDY A. MUNSELL
03318	BERNARD MURPHY
01423	FAMA MURPHY
01161	R. DALE MURPHY
00979	THOMAS M. MURPHY
02179	ELMER W. MURRAY
00937	BOB MURROW
03713	DANIEL MUSGROVE
00850	BARBARA MYERS
01683	RALPH MYERS
01981	A. J. MYRICK
01686	GEORGE MYRMO
01114	JIM & KATHI MYRON
00825	BARBARA NAGLE
01326	MICHAEL NAGLER
04118	LINDA G. NAGY
04251	WILLIAM T. NAGY
00968	JEFF NAMHIE
04300	THOMAS K. NASH
02781	CONSTANCE NASTASI
02786	CARMEL NASTASI
00252	JEAN M. NATH
03175	DWIGHT NAYLOR
03185	STAN K. NAYLOR
03487	FRED NEAL
00786	IRIS NEAL
03275	NOEL W. NEAL
00469	S. NEAL
00361	MICHELLE NEAL-KENNEDY
01705	VICKI NEEDHAM
03354	A. M. NEELLEY
03031	A. M. NEELLEY
00907	CHARLES W. NEEB
03214	JOE NEHER
01307	JOHN F. NEHRING
04648	ANN NELSON
04401	CHUCK NELSON
00800	DAVID NELSON
00560	DELMER B. NELSON
00675	DORIS T. NELSON
00595	HANK NELSON
03177	KIMBERLY NELSON
00559	MARION NELSON
01124	PATTY NELSON
00318	ROBERT W. NELSON
03841	TERRY LEE NELSON
03602	W. V. NELSON
02263	CHARLES H. NERL
00332	JOAN A. NESCHKE
04330	NANCY NESEWICH
03897	NICK NETTER
00317	HERMAN J. NEUBERGER
04767	ERIC J. NEVILLE
00066	RAY D. NEVIN
00980	LORAINE NEWALL
03559	DAVID A. NEWBERRY
03436	ELIZABETH NEWCOMB
03659	ROBERT J. NEWCOMB
00326	CAREN C. NEWELL
04452	DENNIS D. NEWELL
00058	STEPHEN NEWELL
00451	ADA L. NEWFELDT
02977	DON NEWMAN
03620	JESSICA NEWTON
04526	JIM NEWTON
03718	KATHY NEWTON
03549	KENNETH NEWTON, JR.
03983	LINDA NEWTON
04126	RICK NEWTON
03909	SCOTT NEWTON
03077	STEVE NEWTON
03765	CINDI L. NICHOLS
03636	KIP G. NICHOLS
03521	STEPHEN J. NICHOLS
03159	ADAM NICHOLSON
04334	CHARLES NICHOLSON
03173	DON NICHOLSON
01418	JILL NICHOLSON
04721	NICK NICHOLSON
01832	SHANNON NICKELSON
02173	MARC A. NIELAND
02213	D. LEE NIELSON
03682	LYLE NIELSEN
03552	MICHAEL NINES
01321	BOB NISBET
00753	BRUCE M. NISS
03525	ROD NISSEN
00171	NO NAME
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04623	NO NAME
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04785	NO NAME
04786	NO NAME
04788	NO NAME
04853	NO NAME
04856	NO NAME
04902	NO NAME
01795	EVA L. NOBLE
00785	LORI NOBLE
00786	RANDY NOBLE
03121	THOMAS L. NOLAND
02862	JOHN NOLEN
02236	DAVID NORCROSS
00889	JOHN NORGREN
04555	PALMER NORSETH
01305	NORTHWEST FORESTRY ASSOC.
04268	JUDITH NORTON
01648	ROBERT G. NORTON
03353	PATRICIA O. NORVELL
01965	WILLIAM D. NORVELL
01351	MIKE NOSON
01421	A. NOWAK
02331	AL F. NOWIK
03517	DON NUNAMAKER
03516	JOHN A. NUNAMAKER
04028	JOSE' NUNEZ
02690	JAMES A. NYE
04267	JAMES S. O'BANION
01087	TINA O'BANION
00476	WILLIAM L. O'BRIEN
03612	ALVIN T. O'CONNOR
02379	CLAY O'CONNOR
02378	LINDA O'CONNOR
00141	STEVE O'DELL
02632	WAYNE O'DELL
01366	ROBERT O'NEILL
00961	DENNY O'SULLIVAN
00749	MEL OBERST
00017	KELLY ODELL
01783	ELIZABETH R. OFT
01775	HOMER H. OFT
03660	TONY OGDEN
00709	OHALLORAN
02543	JEFF OHRA
03600	KEITH OHTA
01566	RONALD OILAR
03176	H. P. OLDFIELD
04468	LINDY C. OLESON
02730	MONA OLESON
02874	BERNICE OLIN
02873	ELDON R. OLIN
03633	DOUG OLINGER
01269	BARBARA OLIVER
01263	LARRY OLIVER
01917	RALPH & RUTH OLIVER
01248	BRUCE OLSEN
02731	CHUCK OLSON
02008	GAIL OLSON
03187	GREG A. OLSON
01623	JAMES M. OLSEN
00206	JIM OLSEN
03681	JIM OLSON
03389	LEE OLSEN
01401	PATRICK OLSON
03679	TED M. OLSON
02846	THOMAS OLSEN
02845	THOMAS OLSEN
04571	RUTH ONISKO
03240	JOHN OREFICE
04336	SUE ORLASKE
01913	JON ORLOFF
04002	DAN ORT
01698	DON OSBORN
02103	JACK OSBOURN
02628	JANICE S. OSBOURN
02094	JERRY D. OSBOURN
02113	JIM OSBOURN
02098	JOHN OSBOURN
02563	W. F. OSBOURN
02118	SHAWN OSKORAN
03321	MARK OSMOND
01902	STEVE & GAIL OSSOWSKI
00032	GEORGE & RHONDA OSTERTAG
03989	E FLORENCE OTIS
01506	LEROY J. OTTESON
01018	MARION OTTO
03665	TOM OVELLETTE
04747	ROBERT OVERCART
02912	MARK & JOHNA OVERFIELD
00454	IRA OWEN
00869	DENNIS OWENS
04227	DR. & MRS. FRANK B. PACKARD
01487	ALBERT LEE PAGE
00144	ANDY & MELISSA PAHN
01754	JAY PALMER
01930	F. J. PALMER
04168	LENORA PALMER
03637	KAREN E. PALUCK
03420	MRS. F. MARCELLA PANCOAST
02227	TONY PANISO, JR.
00493	GARY PANKRATZ
00443	GEORGE PANKRATZ
00444	KAREN L. PANKRATZ
00446	KRISTIE PANKRATZ
00445	VIRGIE PANKRATZ
04513	JULIE PAPAVERO
01765	ADRIENNE PAPE
00048	ROBERT PARCEL
01671	DARRELL PARDEE
02670	KEN PARK
00487	MILTON PARKCATZ
00620	BONNIE PARKER
03581	BRADLEY D. PARKER
00963	FRED PARKER
01814	RICHARD PARKER
04632	TERY PARKHURST
03937	DONALD PARKS
02156	NAOMI M. PARKS
02157	NAY D. PARKS
02487	PEGGY PARKS
02721	RONALD E. PARKS
02801	SANDY PARKS
04059	STANLEY PAROZ
04321	ANN & MIKE PARR
03070	MARY ALICE PARR
02862	JAMES E. PARRETT
01523	CLIFTON M. PARRISH
03994	DON PARSONS
04519	GREGORY PARSONS
03303	TOM PARTIN
02439	DEBBIE PARTNER
02186	SHAWN PASHMA
03642	BOB PATE
00555	ALAN H. PATERA
03200	MICHAEL PATNEAUDE
00581	JAMES PATRICK
00582	JOAN PATRICK
01578	DALE L. PATTEN
00097	DON PATTERSEN
02536	MARY PATTERSON
04414	PAT PATTERSON
03416	GEORGE PATTESON
03417	KAY PATTESON
04667	DARREL M. PATTON
03425	MR. DON T. PATTON
01125	SANDRA PATTON
00172	PAUL C. PAULSEN
04021	SUZANNE PAULSON
01100	W.K. PAULSON
00011	F. SCOTT PAYNE
00697	HERMAN PAYNE
03211	JIM PAYNE
03049	MIKE PAYNE
00264	NANCY PAYNE
01719	GAYLON L. PAYNTER
01721	EDWARD PEARSON
01354	KARIN J. PEARSON
03635	M. PEARSON
00589	PATRICK G. PEARSON
00968	JAMIE M. PEASLEY
00935	W. H. PECK
03184	LORI PEDERSEN
03799	JOHN PEDRO
00009	ROBERT J. PEEBLES
03045	ANNE PEERMAN
01937	RON PELTIER
04572	JOHN PENAS
03136	DOROTHA PENDLETON
01174	C.E. PEREIRA
01225	KEN PERFUL
01736	BRUCE PERKINS
03115	CHARLES PERKINS
00707	LYLE C. PERKINS
00613	ANNE PERLEY
02318	DONALD A. PERRY
02317	KATHLEEN PERRY
01556	LOUIS B. PERRY
01561	NED PERRY
02940	NORM PERRY
03650	STEVEN M. PERRY
02494	RICHARD A. PERSON
02798	LEONARD PESTERFIELD
01035	JEAN PETERKIN
00781	PEGGY PETERKIN
01083	CORY W. PETERS
01119	MARK PETERS
02967	MARION PETERS
00947	RICHARD PETERS
00678	TIMOTHY PETERS
01500	WALT G. PETERSEN
02982	JIM PETERSEN
04456	CLINTON K. PETERSON
04848	DON PETERSON
03643	DONALD L. PETERSON
01120	LISA PETERSON
03546	MARK S. PETERSON
04697	NANCY PETERSON
00003	RAY PETERSON
03564	ROBERT B. PETERSON
01810	ROBERT E. PETERSON
00210	ROBERT W. PETERSON
04566	RUSSELL D. PETERSON
03263	K. PETRIE
01353	ROSS PETRIE
00121	N.W. PETTIJOHN
04274	DAVID PEX
04787	R.P. PEYRAN
01314	J. L. & MARY H. PHELPS
03606	LILY A. PHELPS
02945	DONALD B. PHILBROOK
02920	ALAN R. PHILLIPS
00517	BILL PHILLIPS
00520	HAROLD PHILLIPS
01074	H.E. & B.R. PHILLIPS
00448	PATRICK J. PHILLIPS
03213	RAYMOND PHILLIPS
02680	RONALD C. PHILLIPS

04497	TED HENRY PHILLIPS
04496	WANDA PHILLIPS
00756	MARGARET L. PIATT
01121	LARRY PICKELSON
02636	MELVIN H. PICKNG
03610	JODY PIEPER
01624	ROY PIERCE, JR.
00474	RODERICK A. PIKE
02916	CLAYTON E. PILLAR
02726	DAVID PINE
03365	WILLIAM T. PINNIY
03602	DAVID F. PIPER
04342	EDWARD PISCHEDDA
03957	MICHAEL PISTNER
02597	GEORGIE PITRICKO
00941	KENT L. PITTARD
00220	GENI PITTELKAU
00218	GEORGE PITTELKAU
04591	RUSS PLAEGER
00402	PATTY PLAISTED
03361	JOE M. PLASKETT
03737	KEVIN PLATT
01408	BOB PLATZ
00462	M. N. PLOWMAN
03601	AILEEN POBANZ
04463	STEVEN E. POET
03661	TODD POGUE
03636	DANIEL R. POLACH
03670	DONALD H. POLACK
03542	KEN POLACK
04663	RICK POLAND
01537	KEVIN POLING
00960	TONY POLINSKY
04717	CHARLES S. POLITYKA
04396	NANCY POLLOT
00589	JODIE D. POLZEL
02057	ANNE R. POND
02060	CHARLES P. POND
03427	BRENDA J. PONICHTERA
00527	KENNETH C. PONICHTERA
02775	DALE POOL
00660	STEVEN POOLE
01357	RICHARD R. POOLEY
03192	DENNIS B. POPE
04147	DIANNA POPE
04365	DIANNA L. POPE
02093	ALEX R. PORTER
01674	BARRY PORTER
02557	DAVID PORTER
00372	JAMES D. PORTER
00993	RICHARD PORTER
01344	WILLIAM PORTER
01779	J. V. PORTERFIELD
00673	LEONARD N. PORTERFIELD
01572	RUTH PORTERFIELD
03506	TROY PORTNER
03006	DICK POSEKANY
01773	PHYLLIS POSEKANY
01062	RICHARD POSEKANY
00408	RICK POSEKANY
04579	BRIAN POSEWITZ
00441	GEORGE R. POST
00516	JOHN A. POST, SR.
01770	BEN POTTER
04200	JENNIFER POTTER
04226	JOHN R. POTTER
03230	C. H. POTTS, JR.
02164	HARRY POTTS
01256	DANNY POWELL
01547	FRANCIS J. POWELL
01040	HAROLD POWELL
00587	HERMAN H. POWELL
01461	IDA POWELL
04641	JUANITA J. POWELL
04224	J.W. POWELL
03616	KYLE POWELL
00069	CALVIN LEE POWERS, JR
03067	BOB POWNE
03005	SCOTT O. PRATT
04091	THOS. H. PRENTICE
03965	JOHN KENNEDY
03639	COURTNEY A. PRESTON
02335	CURTIS D. PRESTON
01667	RON PRESTON
04527	STEVE PRIBGL
01340	GORDON PRICE
01103	KONRAD W. & IDA PRICE
01464	TERRY PRICE
03158	W. T. PRICE
01229	ED PRIEPKE
01147	KEN PRIESTER
01148	SUSAN PRIESTER
01063	FRANK PRIMOZICH
01472	JOHN M. PRINCE
04615	PATRICK PRINGLE
00300	STEVE PROCK
00323	STEVE PROCK
04485	ALAN PROUTY
03662	MELANIE PRYOR
00433	JIM & PATTY PUCKETT
00643	TIM PUCKETT
03786	ROY D. PUHLMAN
00209	MR. & MRS. DAVID PURSEL
04472	EARL PUTNAM
01794	GLEN A. PUTMAN
02457	GORDON J. PUTNAM
00216	JACK PYLE
02698	PAULETTE PYLE
01925	JOSEPH G. QUAGLIANI
04744	JEAN QUALEY
04471	NORMAN QUALEY
03734	SCOTT QUALEY
03261	DON C. & JUDY L. QUINT
03547	DON QWOLY
03227	JOE RACKLEY
04424	FRED RACZYKOWSKI
03927	LELA B. RADOVICH
03202	PAT RAGAN
01333	ROBERT RAGON
01265	WAYNE RAHDALL
04315	ERIC RAIDER
03054	CHARLES C. RAINES
01633	FRED E. RAKE
00636	DICK RALLS
00637	VIRGINIA L. RALLS
03667	DANIEL U. RAMIREZ
01264	PABLO RAMIREZ
04655	FRED J. RAMSEY
01142	JEAN RAMSEY
04690	JOHN C. RAMSEY
02367	LLOYD LEE RAMSEY
03131	NORMA RAMSEY
03478	SHERRY RAMSPERGER
04130	AVIS RANA
03634	JOHN RAND
03555	DAVID P. RANDIN
01021	GRETCHEN RANDOLPH, PH.D.
02473	BARBARA J. RANEY
01677	LAURA W. RANIGN
04691	CATHERINE M. RAO
03082	LISA RAPAPORT
04372	KATHY RAPP
03743	STEVE RASHALL
00128	JADE RATCHFORD
04153	NATE RATHBONE
03460	MICHAEL RATHBUN
03362	C. W. RATHTON
01951	JOHN & MARIE T. RAU, PHD
02663	MARIE T. RAWSDELL
00950	D. E. RAY
00496	JEFF RAY
04769	JOHN W. RAYBURN
03676	CHRIS RE
01641	JERRY L. RE
04247	J.K. & MARILYN READ
00031	LARRY READ
01312	LOIS READ
04377	FRAN RECHT
03143	D. REDDEKOPP
01733	LAWRENCE R. REDDING
04103	RON REDFORD
01051	ALVIN REED
00904	DEBORAH REED
01050	DOROTHY REED
01078	GARY REED
00504	GROVER REED III
03463	IVA & IONE REED
01046	JACQIE REED
01047	JAMIE REED
01052	JASON REED
00980	LINDA REED
02206	MARY E. REED
01049	RAYE REED
00656	RHONDA REED
00927	ROBERT G. REED
04770	STEVE REED
04165	WILLIAM REED
04779	MARIE REEDER
03072	ALLEN REEL
00176	DORIS E. REEVES
03763	JON M. REEVES
02365	R. S. REHM
00195	GARY REID
04169	LEONARD REIJONEN
04669	PAUL H. REILLY
01690	CRISTY REIN
03711	ARNOLD REINHART
01793	A. TROY REINHART
03597	TY REINHART
03194	JEFF W. REINS
00629	DIXIE M. REISCH
00630	VERNE REISCH
00645	VERNE & DIXIE REISCH
01947	TED REMILLARD
04234	JACK REMINGTON
03912	MOLLY RENEAU
04633	LYLE RENN
03652	DONALD W. RENNER
01043	DON RENSCHLER
00601	RESIDENT
02768	RESIDENT
03224	RESIDENT
03625	RESIDENT
04116	RESIDENT
04131	RESIDENT
04421	RESIDENT
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02031	REVA M. REVEAL
00422	D. BRUCE REX
00325	DONALD A. REX
04685	TERESA A. REYES
02064	BOB REYNOLDS
03762	CHARLES REYNOLDS
02654	DWIGHT S. REYNOLDS
02691	JEAN REYNOLDS
04350	JULIE REYNOLDS
00243	FRANK & JANE RHODES
03323	GEORGE RHODES
01656	MELVIN RHODES
02953	EVERETT G. RHODS
03593	LOIS J. RICCI, JR.
03973	MARTHA RICE
00109	MAXINE RICE
00108	ROBERT RICE
01845	SHARON D. RICE
04437	VIRGINIA RICE
04395	PAUL H. RICH
01169	JOSEPH H. RICHARD
02662	ALFRED W. RICHARDS
02245	J. FLOYD RICHARDS
00492	STEVE RICHARDS
00060	RUST RICHARDSEN
01265	BRIAN D. RICHARDSON
01755	DAVID RICHARDSON
02296	DENNIS RICHARDSON
00276	CLARENCE RICHEN
03455	DOUG RICHMOND
03343	CHERYLE RICHTER
02218	DAN RICKARD
03671	ERIK RICKEDTS
03636	MIKE RIDERBAUGH
04290	DANIEL RIFE

03736	LINDA RINCK
02977	DICK RING
00648	JEFF RINGER
01452	CANDACE J. RINGLER
00731	THOMAS G. RITCH, JR.
04357	DIANE RITCHIE
03391	DICK A. RITIVILD
01763	RONALD RIVG
02661	H. ARTHUR ROARK
02748	SAM ROARK
00926	C. ROBB
04413	CARL ROBB
04402	JO ROBB
04427	MONTY ROBB
04086	R. ROBBINS
02112	BILLY N. ROBERTS
02799	CHERYL L. ROBERTS
00536	DALE ROBERTS
02866	DALE ROBERTS
02859	E. N. ROBERTS
02445	JAMES ROBERTS
02116	LLOYD ROBERTS
00706	ROYCE ROBERTS
02382	SHARON C. ROBERTS
01960	WM. T. ROBERTS
00835	JULIUS ROBERTSON
03059	BOB ROBINSON
03524	CARI W. ROBINSON, SR
04469	CHARLEY ROBINSON
02447	DOUG ROBINSON
04189	E. T. ROBINSON
00241	PEGGY ROBINSON
04257	T. THACKER ROBINSON
04727	W. GRAY ROBINSON
04703	WILLIAM MATTHEW ROBINSON
02289	CLYDE ROBISON
03488	WILLIAM ROBISON
01805	PHILLIP P. ROBLEY
00163	JAMES B. RODEN
03633	KIM & ROXIE ROCHAT
00188	ERIN RODEN
03654	ROBERT RODGERS
04498	FRANK P. RODRIGUEZ
03451	FRANK RODRIGUEZ
01261	WARREN ROEBUCK
01426	OLIVER ROESLER
04241	BARBARA ROESSNER
04171	GARY ROESSNER
04874	RICHARD ROGAN
00802	DORIS ROGERS
01768	GEORGE O. ROGERS
04840	LUCHIAN M. ROGERS
03468	LYLE ROGERS
03746	MICHAEL ROGERS
04360	PAT ROGERS-ROCHNA
00457	NEIL ROGERSON
00219	JACK & JODY ROGGENSACK
03118	JUDITH ROHL
01395	RICHARD ROHL
01610	DOUGLAS G. ROHN
04305	PAULA ROHRBAUGH
02007	RUDY ROLKO
01517	CLARE A. ROMINE
04654	PAUL ROOD
04343	ANDREW ROOMAN
00221	BARBI L. ROOT
00189	DONY ROOT
02140	CONNIE ROSE
04406	GRANT ROSE
02325	HARRY F. ROSE
02701	TIM ROSE
01332	CAROL ANN ROSEN
01331	LEROY C. ROSEN
03966	JOHN ROSENBURG
03003	ALAN ROSENFELD, MD
00065	ALLAN ROSS
00975	BETTY ROSS
02352	MARK G. ROSS
02717	LONNIE D. ROTH
02334	PAT M. ROTH
01953	RUSS ROTH
03075	JAMES ROUTH
00518	LINDA ROUTH
02573	MARLYN ROVIY
03080	TED ROWELL
01631	SHIRLEY ROYER
00808	ROBERT ROZELL
01543	HARRY RUBENSTEIN
01070	DAN RUDD
04530	MINNIE E. RUDD
01082	PAT RUDD
04867	ROGER RUDERT
01885	RICHARD RUE
04112	LAURIE A. RUIZ
04136	GIGA RUNNEY
04353	LEIF RUNNING
02077	JACK D. RUSH
01076	LARRY RUSHMEIER
03080	G. A. RUSSELL
03609	JOE A. RUSSELL
03708	JON RUSSELL
01710	MARVIN RUSSELL
00367	ROBERT B. RUSSELL
03577	BRIAN J. RUST
01219	VERNON E. RUST
04024	KEITH RUTHENBECK
00274	KEN RUTHERFORD
03771	JEFF RUTHERFORD
01205	BOB RYAN
03901	BRUCE RYAN
01845	CONNIE RYAN
00502	JOHN W. RYAN
04032	PAUL RYAN
00919	JOHN SAARI
03787	TOM SAATHOFF
02321	JUANITA SAGERS
03504	GARY D. SALCHENBERG
04140	THELMA SALEZAR
00580	DON SALKA
00214	VICTOR SALTVEIT
04282	DAN SALTZMAN
04804	MARIE D. SALVY
04074	BILL SALYERS
01132	DAVID SAMPSON
04096	ANNE M. SANBORN
02496	CLIFFORD SANDEN
03680	DAN SANDERS
04969	STEVEN A. SANDERS
01424	WALT SANDERS
01425	WAYNE L. SANDERS
01378	DEAN SANDGREN
01037	ROBERT SANDGREN
03723	GREG SANDIDGE
03201	ZACHARY SANDLIN
02806	DONNA SANDOVAL
02542	MICHAEL SANDOVAL
01096	CARL & WINIFRED SANDOZ
01312	SUSANNA SANDVIG
01267	THELMA SANFORD
04665	RALPH SAPERSTEIN
03330	LOREN SAPP
04192	MARGA SARRIUGARTE
04007	M. SATERN
04193	GEORGE SATTERWHITE
00701	MIKE SAUER
03959	KATE SAUNDERS
03036	KEN SAVAGE
04352	CAROL SAVONEN
04476	M. E. SAWYER
04829	WILLY SAWYER
02300	THOMAS L. SCANLON
02299	RICHARD SCHABERG
02043	DALE R. SCHACHTSICK
01526	ROBERT G. SCHACHTSICK
03619	LACRETIA C. SCHACT
01566	LOIS SCHAEFER
00037	MAIJA SCHAEFER
02765	MARK A. SCHAEFER
02633	DALE L. SCHAFER
00617	WARREN SCHAFER, DMD
04554	ROBERT SCHANTZ
01513	M. TODD SCHARFF
01897	BOB SCHATZ
04265	DIANE SCHAUER
02444	TED M. SCHEER
00044	JAMES SCHELLER
00923	DALE SCHELLER
00484	BARBARA SCHENEWARK
01486	DOROTHY SCHEVE
01515	ED SCHEVE
03774	MICHELLE SCHEVE
03779	DAVE SCHEVE
01065	SHARON SCHIEBOLD
01830	CHARLES A. SCHIEDLER
00890	JACK SCHIEFELBEIN
03798	WILLIAM G. SCHIEWE
02374	BEVERLY SCHILTHUIS
00824	MARK SCHLACHTER
00526	KEVIN SCHMADEKER
04008	B.J. SCHMADER
02952	ANNA SCHMID
00397	BUTCH SCHMIDT
04551	EDWARD SCHMIDT
02182	W. SCHMIDT
02046	EUGENE R. SCHMITZ
01946	CURT SCHNEIDER
04814	RODGER SCHOCK
00816	KATHY SCHOENBORN
00569	RODNEY SCHOENBORN
02125	KELLY SCHOETZLER
02771	BOB SCHOLL
00396	ED SCHOOR
02766	DAVID SCHOTT
04523	JOSEPH C. SCHOTT
01111	RICHARD SCHRAM
00258	RICHARD SCHRAMM
00783	ALBERT SCHROEDER
04679	KIRK SCHROEDER
04486	NORMAN SCHROEDER
03102	R. S. SCHROEDER
01760	HAROLD L. SCHUDEL
02032	KEN SCHUEMAN
03579	CHARLES R. SCHUEPBACH
02130	PAUL SCHUETZLER
04077	JOHN SCHUH
01249	ERNEST SCHULD
01284	STEVE SCHULD
02131	HAROLD SCHULL
00728	PAUL D. SCHULTZ
00862	PAUL D. SCHULTZ
01566	LOWELL D. SCHULTZ
01046	DANIEL SCHULZ
03821	KEVIN J. SCHUMACHER
02900	T. R. SCHUMECHER
03492	DANIEL SCHUSTER
03250	LENORE SCHUSTER
00745	ROARK D. SCHWANENBERG
02036	HOWARD SCHWANKE
01970	JUDY SCHWARTZ
02215	WAYNE SCHWARTZ
00049	RETO SCHWARZ
01197	DAVE SCOTT
01447	MR. & MRS. C.T. SCOTT
01730	HENRY D. SCOTT
04726	JESSIE SCOTT
03699	MARILYNE SCOTT
03803	RAYMOND SCOTT
03863	RICHARD SCOTT
01965	PAT SCOTT STONE
00855	LEE R. SCRANTON
03225	LARRY SCROGGINS
00399	DAVID SEAL
04848	ORLIE SEAL
02408	SHAWNA M. SEAL
02091	VERNON R. SEAL
01366	WILLIAM E. SEFLER
00784	OLIVE SELDERS
02266	CLIFFORD A. SELLERS
02529	MARY ELLEN SELLHORN
04553	SHARON SELVAGGIO
02263	EPIGNERIO SEMORO
03751	RICK SERATT
00713	NORMAN SEVERSON

01473	JACK SEYMORE
00091	HUGH A. SHA
00888	SHARON SHAFFER
03628	DON F. SHALHOPE
00712	WM. SHAMBO
01816	KENNETH H. SHANER
02424	AUDREY L. SHANEYFERT
04190	DOUG SHARKEY
02459	LYNN SHARKEY
02205	DALE L. SHAVER
02017	CHARLES M. SHAW
03692	STEPHEN SHAW
00412	KAREY SHAWE
02855	PHYLLIS SHEA
02362	R. WM. SHEATHELNY
04517	EDWARD SHEETS
04154	JULIE SHENNA
00916	BRIAN SHEPAERD
02991	GEORGE R. SHEPARD
02472	TODD G. SHEPARD
03128	D. L. SHERIDAN
03778	ED SHERMAN
02485	RICK SHERRELL
03974	JAY SHERRERD
04366	MICHAEL SHERRILL
04029	DAVID SHEW
04237	EDWARD J. SHIELDS
01371	TOM SHIOLAS
01815	RICHARD M. SHIPLEY
02478	PAT SHOAF
03335	ALLEN SHOCKLEY
01422	KENNETH M. SHOLD
01727	VERNON SHOPE
02924	LINDA SHORT
00459	R. B. SHORT
02577	ROGER SHORT
03120	BEVERLY SHORTRIDGE
03599	LLOYD W. SHORTRIDGE
03626	DAVID SHOWERMAN
00379	CLIFFORD M. SHROCK
00359	DOUG SHROCK
00378	KEITH SHROCK
00929	DICK SHROLL
00930	LEAH SHROLL
01352	MICHAEL W. SHRUGOT
03783	T. SHUMWAY
00217	VALKO SICHEL
02491	SCOTT SIDLE
02664	BILL SIEMENS
02466	JUANITA SIEMENS
02465	W. SIEMENS
01077	FRED SIEWERT
04671	MARK SIGEL
02080	DUANE SIGL
03721	CLIFF SILBERNAGEL
04149	KENDRICK J. SIMILA
00231	ROY M. SIMMONS
01632	LAVONNE A. SIMMONS
02167	DEBBIE SIMMONS
03202	CLAY R. SIMON
01058	DEBBIE SIMONIS
01057	DAN SIMONIS
02275	MICHAEL A. SIMPKINS
00261	JULIE SIMPSON
01505	LEE C. SIMPSON
02534	CAROLINA E. SIMS
02535	TONY L. SIMS
04065	BARBARA SINGLETON
00533	SHAWNA SINOP
00415	PHYLLIS SISCO
00395	R. C. SISCO
02699	COTTON SISSON
01782	DR. E. GEORGE SITKEI
01178	ROBERT SKIE
04706	R. G. "CHIP" SKINNER
04293	LEO & RUTH SKIPTON
01093	MARK SKOLNICK
01337	JEAN A. SKOU
00955	LUCIA N. SKOV
00610	DR. MILTON SKOV
00741	SALLY G. SLACK
04215	KEVIN SLAGLE
03156	TIM R. SLATE
02698	DANIEL SLOAN
03536	LEON SLOAN
02095	DAVID SMITH
03617	DICK SMALLRIDGE
01495	GERALD SMALLWOOD
04865	GARY SMEAD
00053	AL SMITH
01800	BARBARA J. SMITH
00237	BUDDY M. SMITH
02649	CALVIN SMITH
00137	CATHERINE SMITH
01950	CATHERINE A. SMITH
01740	CHARLES A. SMITH
01641	CLINTON E. SMITH
00077	CRAIG D. SMITH
02761	DAN SMITH
01002	DENNIS SMITH
02539	DONALD L. SMITH
00153	DONNA M. SMITH
03132	DONNA SMITH
00508	DUANE F. SMITH
03375	DWANE A. SMITH
02159	FRANK SMITH
03598	FRED SMITH
03226	FREDERICK SMITH
02928	GARY V. SMITH
00499	GEORGE T. SMITH
02709	H. J. SMITH
01561	HOWARD E. SMITH
04228	IRA A. SMITH
04364	JAMES Q. SMITH
03336	JENNIFER SMITH
03958	JILL SMITH
00321	JIM SMITH
01990	JIM SMITH
03860	JIM SMITH
01361	JIMIELEE SMITH
00567	JUNE E. SMITH
03728	KELLY SMITH
04709	KELLY L. SMITH
02712	LAQUITTA SMITH
03980	LAURIE SMITH
04906	LEONARD H. SMITH
02160	MARY SMITH
01747	MILT SMITH
03621	NINA SMITH
03312	RICHARD SMITH
00614	ROGER K. SMITH
02975	RON SMITH
04858	STEPHEN H. SMITH
02084	STEVEN R. SMITH
02346	TERRY A. SMITH
03684	TIM SMITH
00230	VINCE SMITH
03860	WAYNE SMITH
04016	WENDY SMITH
01362	WESLEY J. SMITH
02549	WILLIAM E. SMITH
02021	WILMER M. SMITH
03231	J. M. SMYTH
03604	BARBARA SNELL
03605	DON L. SNELL
04114	LAWRENCE A. SNELL
02694	TINA SNELLING
00884	DAVID W. SNELSON
03474	JULIA SNODGRASS
01912	RUSSELL J. SNODGRASS
03528	WES SNODGRASS
01768	GREG SNYDER
04732	JERRY A. SNYDER
03773	RUBY SNYDER
00452	CRAIG SODERBERG
01223	DAN SODERSTROM
04150	SOCIETY OF AMERICAN FORESTERS
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02640	JOSHUA L. SOHN
02660	RICHARD SOHN
02565	VICTORIA SOLBERG
02030	ROBERT SOLEMAN
01392	P. F. SOLHEIM
04696	JONATHAN SOLL
03692	JOHN F. SOLLERS, JR
04836	RAY SOLLHAR
01451	CHARN SOMBOONSIRI
03421	BONITA W. SOOTS
03218	GREG SORENSEN
04233	ALLEN SORENSON
01893	JOEY L. SORGER
03841	LANCE SORTER
04042	ISRAEL SOTO
00847	LEONARD A. SOUTH
00363	JOHN SOUTHARD
04822	JUDY SOUTHARD
00729	VICTOR C. SPALLER
03165	RANDY SPANFELLNER
04470	JULIE SPARKS
04296	MELVIN D. SPARKS
02294	JOHN SPARLDING
03984	J.W. SPASSON
00232	DENNIS SPATH
00500	HARVEY L. SPEARS
01624	JIMMIE L. SPEARS
01457	CHARLA SPECTOR
01562	ROBERT L. SPENCE
02166	LISA SPENDLOVE
01939	MRS. MORELAND SPEYER
04363	JEAN M. SPIERING
01714	RICK SPRING
04039	DAVID SPRINGER
02728	MRS. JENNIFER SPRINGER
01829	RANDY SPRINGER
00900	RICK SPRINGFIELD
03798	JAMES W. ST. CLAIR
03660	STEVE STAATS
01390	GEORGE D. STACKS
03313	L. STADDEN
01644	RODNEY STAFRER, SR
00510	GEEN STAHLNECKER
04643	KEN STAHLNECKER
01642	THOMAS H. STALEY II
03574	LEONARD STALNAKER
04332	J. STAMMEN
03068	CYRUS STANDLEY
01611	STARLIN F. STANFILL
01460	DAVID STANGEL
02187	BRUCE C. STANTON
03496	JULES STANTON
03471	LEE STANTON
02553	RITA K. STANTON
03499	ZELDA STANTON
01023	CHARLES & ANNA STARIHA
04073	RAHM J. STARK
03130	B. BOND STARKER
00481	TOM STASSENS
03314	MICHAEL STAUFFER
01612	FRANK W. ST CLAIR
04512	SCOTT STEAM
02107	DAVID STEARNS
01594	CHRISTOPHER STEELE
04271	WILLIAM K. STEELE
01001	BRIAN STEEVES
02037	RANDALL STEFFEN
00916	TOM STEINER
04574	DOUG STEINKAMP
02925	FRANK STELLFLUG
04909	BRAD STEMPLE
03454	BRIAN STENBERG
03223	JANET STENERSON
03219	ROGER STENERSON
00680	LARRY STENNICK
04356	CHUCK STENSRUD
03315	JOHN STEPHENS
02090	MARK R. STEPHENS
01499	MICHELE STEPHENS
04802	NORMAN C. STEPHENS
03167	GUS A. STEVENS
04455	DOLORES D. STEVENS
01741	VERN STEVENS
04569	BRUCE STEVENSON
00307	W. E. STEVENSON

00151	JOHN STEVIE
I2981	BRUE D. STEWART
03895	JAMES STEWART
04220	JANET L. STEWART
00068	JOHN STEWART
03109	LINDA STEWART
02944	L. M. STEWART
03975	JIM STICKLER
02692	PEGGY STICKNEY
01936	WILLIAM C. STILES
01044	ARTHUR L. STILL
02612	BUTCH STILL
03605	GREG STILL
02621	PAT STILL
04066	W. L. STILLWELL
01846	BLANCHE STIMMEL
03018	CYNTHIA M. STINE
02201	APRIL STINER
02200	STAN STINER
00110	BRIAN STIPAK
00102	BRADLEY STIVERS
03936	CHARLES STOCK
00737	BONNIE STOCKMAN
04207	PETER STOEL
04243	C/O PETER STOEL
03136	TOM STOLAAS
02337	PAUL R. STOLHAND
01117	STEPHAN STOLZBERG, MD
01998	SCOTT STONDER
03609	ALLEN STONE
04441	JACK STONE
03810	KARMEN M. STONE
03770	KEVIN C. STONE
03640	TOM C. STONEHOCKER
04829	BILL STONELAKE
01487	RICHARD G. STONEX
03829	JEFF STOREY
03002	RELLALEE G. STOTT
00884	BETH STOUT
04071	DOUGLAS E. STOUT
02867	JAMES E. STOUT
02958	DONNA L. STRAIN
02982	DAWN STRATTON
01538	CHRIS STRAWN
01962	GARY STREAN
02316	PAM STREATER
01524	BONNIE STRICKLAND
01520	CH/ NE C. STRICKLAND
04301	THOMAS STRIETZEL
03089	FLETA STRINGFELLOW
01349	W. H. STRINGFELLOW
03684	RENEE STRINGHAM
03615	D. STROBELL
03307	ERIC STROM
03971	PETER STROUD
00458	KATHLEEN STROUP
01651	ALDEN STRUTEVANT
03658	TODD STUDE
02881	JOHN C. SUING
02314	DONALD SULLENGER
02315	ROBERTA SULLENGER
02188	SCOT SULLENYER
03862	LONNIE SULLIVAN
00521	WILBUR SULZBACK
01165	LARRY SUMMERS
00483	GREG SUNDERLAND
04733	JOE SUSBAUER
00757	HILDE SUTTON
03424	LARRY SVART
01995	R. A. SVENDSEN
03450	PHIL SWAIN
00964	P. J. SWAN
00015	JOHN R. SWANSON
03301	LYLE SWANSON
00548	DONALD & PEGGY SWEARINGEN
04109	JAYNE L. SWEED
01003	MICHAEL SWEENEY
02684	CAROL SWEITZER
01217	RICHARD SWENSEN
03010	JEANETTE SWETT
00730	JEANETTE WARNER SWETT
00797	SHARON SWETT
04577	ARTHUR SWIFT
00806	EHVIN H. SWIGART
02836	K. B. SWIGER
01334	WILLIAM SWINDELLS
03849	PAUL SWISHER
03208	MARSHA SWORD
01675	NORM SWORDS
02278	BETSY SWYERS
02086	DAVID W. SWYERS
02096	DONALD E. SWYERS
03614	WILLIAM H. SYLVESTER
03946	EDWARD E. SYLVIA
04796	ROBERT B. SZEBERT
02998	STEVE TACCOGNA
03961	LESLIE TAGGESELL
03565	MISAKO TAKASUMI
03580	JEAN TALLERUD
02763	JAMES TALLEY
01506	MITS TAMURA
02506	CHENNIE TANAKA
02702	GARY K. TANAKA
00814	GERALD R. TANQUIST
03163	DONALD J. TAPLIN
04542	CYNTHIA TAPPER
01856	GEORGE L. TARRANT
01207	STEVEN C. TARRANT
04181	STAN TAUSCHER
02670	ANN TAYLOR
01412	CHARLES R. TAYLOR
03441	GERALD R. TAYLOR
04642	JANET TAYLOR
03062	JERALD E. TAYLOR
03467	JERALD TAYLOR
03373	LAURENCE R. TAYLOR
00946	LINDA TAYLOR
01798	PHIL W. TAYLOR
00888	RANDY A. TAYLOR
02023	RODNEY TAYLOR
00073	SCOTT TAYLOR
03418	WILLIAM J. TAYLOR
04202	D.P. TEAGUE
03320	MELVIN TEAGUE
02443	RODNEY J. TECKENBURG
02851	HAL TEGTHOF
02343	DEBBIE TELLER
03473	RANDY & MELINDA TESAR
01541	FRED TESCH
00076	DAVID TESKA
02241	DARRELL THAYER
01177	KIMBERLY THIEDA
01784	PERRY C. THIEDE
00118	KRISTA & DARYL THIE HOYT
00841	ANTON THIEL
00856	B. ALLEN THIEL
00313	BRUCE THIEL
00840	HILDA THIEL
00290	MICHAEL THIEL
04492	PHILIP THIEL
00414	SUZANNE THIEL
00771	JOSEPH E. THIELMAN
00344	JOHN R. THIENES
00039	JEFF THIERET
01029	JEFF THIERET
01889	DAVE THIES
02016	W. F. THINDIREAN
00198	FRANZ F. THOMA
00197	NORA THOMA
04549	BOB THOMAS
03981	CAROLYN THOMAS
02264	COREY THOMAS
00736	DENIS W. THOMAS
02550	DENIS W. THOMAS
03479	FRANK & PHYLLIS THOMAS
04820	MARGARET H. THOMAS
04528	M.L. THOMAS
02531	REGINA THOMAS
00376	WALTER D. THOMAS
01857	WANDA L. THOMAS
03808	BRETT THOMPSON
01484	DALTON A. THOMPSON
02880	DANNY THOMPSON
01916	ERIK THOMPSON
02054	F. A. THOMPSON
03254	G. THOMPSON
01189	GUY W. THOMPSON
03500	JOHN THOMPSON
04283	MARY E. THOMPSON
00319	A. M. THOMSEN
02288	CLIFTON R. THOMSEN
00055	JACK THORNBURG
02282	CAROL THORNTON
03248	C. W. THORNTON, JR.
02202	RICHARD J. THORNTON
03448	SUZANNE THORNTON
03298	GLENDA THOROMAN
02575	DOUG THROUP
01025	JAMES TICE
03889	DUANE G. TICHNOR
04580	ANNE TILLINGHAST
03212	JOHN TILTON
02576	ARNOLD W. TIMM
03351	LIONEL V. TIMMEL
00287	HOWARD J. TIMMONS
01502	BENELL TINDALL
02098	MERLE TINKER
01380	LARRY TITUS
01384	HEIDI TIURAN
04280	MICHAEL P. TOBIN
04287	MONA TODD
03522	RUSSELL A. TOLAND
01503	GEORGE T. M. TOLLEFSON
01182	R. W. TOLLETT
03482	BEVERLY TOLMAN
02237	IDA JEAN TOLSTAD
02463	JENNIFER TOLSTAD
02422	T. J. TOMJACK
02903	MARK TONEY
00869	JAMES TOON
03110	GLEN TORRANCE
04825	ROBERTO TORRES
00558	PATRICIA TORSEN
01215	LOUIS A. TOULOU
01910	JACK TOWNES
03363	M. D. TOWNES
02817	HAROLD F. TOWNSEND
01704	GEORGE E. TRACER
04718	EMERY TRACY
03752	LARRY C. TRACY
04240	NANCY LOU TRACY
01485	WENDY L. TRAIL
01254	ROSCOE TRANSUE
01322	PHILLIP & KAREN TRAUTMANN
03489	SURRA TREGARTH
04863	RAY TRIPLETT
03155	JOHN A. TRIPP
02415	R. JEAN TROLLIER
02036	PAULINE TROM
04037	BOB TROTTER
00388	ALBERT TROUTMAN
00822	STEVE TROUTMAN
02683	BILL TROXEL
01480	ED TROXEL
02211	CHERYL TROXELL
02150	JACKIE D. TROXELL
01088	EDNA TROYER
02783	LILLIAN MAY TRYKALL
02782	WILLIE H. TRYKALL
04318	HANS TSCHERSICH
04428	NICK TUBBS
04419	SHARON TUBBS
01639	EARL W. TUCHARDT
00569	JAMES E. TUFTS
02967	LAWRENCE P. TULL, JR.
04157	JON TULLIS
01539	FRED G. TURKHEIMER
00878	JOAN M. TURNER
01365	LAURIE TURNER
02464	MARVIN TURNER
03083	SUSAN TURRELL
00450	R. C. TUTT
03388	RICK G. TUTTLE

00953	TYGH VALLEY GRADE SCHOOL
02141	CAROLYN TYLER
01415	MARVIN L. TYLER
03833	STEVE TYLER
04366	KENT TYLMAN
03056	JAMIE UDY
04606	JEFFREY UEBEL
04607	LESLI UEBEL
03300	JACK E. UGULINI
00755	RAY ULATOSKI
02863	LARRY ULBRICHT
04080	JEFF UNGER
00848	DAVID UPPENA
01835	DARLENE UPTON
01695	LARRY G. URBAN
01750	LORNE G. URBAN
01270	WAYNE UTLEY
04867	ROBERT W. UTZINGER
02762	DENNIS VAAGEN
04155	LARRY VAIL
01108	MARY VAILLANCOURT
00074	E. J. VALACH
02436	CHARLOTTE VALDIVIA
02827	TIRSO VALDIVIN
03029	GARY VALLENS
03044	ELLISA VALO
00529	E. B. VALPY
01926	CHRIS & VICKI VAN BEMMEL
03041	MICK VAN BLOKLAND
04664	DALE E. VAN CLEAVE
00931	DAVE VAN DE GRAFF
02962	BETTY R. VAN DEVENTER
02259	CELYNN VAN DEVENTER
02274	CHARLES S. VAN DEVENTER
02189	D. LYNN VAN DEVENTER
01577	BETTY VAN DOLAH
01568	GLENN L. VAN DOLAH
01650	WAYNE VAN DOLAH
04586	ERICK VAN DYKE
02978	ALBERT VAN EPPS
02862	THOMAS R. VAN EPPS
02863	WANDA VAN EPPS
00612	FRED VAN NATTA
00242	GARY R. VAN ORMAN
02598	DOLLY VAN OSDOL
03111	LARRY VAN OVER
02626	R. L. VAN OSDOL
03104	M. D. VAN VALKENBURGH
00834	STEVEN R. VAN VRANKEN
02927	R. W. VAN WINKLE
02503	RICK A. VANDEN BROS
03903	DICK VANDER SCHAAF
03904	DICK VANDER SCHAAF
01972	C. DON VANDEVENTER
02567	CINDY VANEK
02209	DAVE VANEK
02249	JENNIFER VANEK
02566	MICHAEL VANEK
02235	PAT VANEK
02250	PATRICIA H. VANEK
01540	D. ELDERT VANELK
02435	GENEVIEVE J. VANN
02434	JOHN VANN
02433	WESLEY R. VANN
02758	J. B. VANOUER
03294	WESLEY W. VANTZELFDEN
03191	ROB VARGA
02966	CHARLES L. VARNER
01742	WESLEY E. VARNEY
04912	FRANK VARNUM
00732	CHARLES A. VAUGHN
00868	KATHY L. VAUGHN
00881	RALPH M. VAUGHN
02045	CAROL A. VEELLE
03873	DALE VEELLE
03304	EMIL VEELLE
03889	MELVIN VEELLE
03815	J.M. VELASCO
01436	VIRGIL E. VELENE
04306	BONITA VELIA
04143	BECKY AND GARY VESTAL
00098	BRUCE VICKERS
03246	JACK VIDOCIE
02454	GEORGE VIEIRA
03258	KLINDT VIELSIG
04020	ROGER VINCENT
00298	LARRY R. VISSER
00169	ROSEMARIE VISSER
04358	BILL VOGEL
00546	FRANKLYN C. VOGT
00409	MIKE VOLK
03767	MARK E. VOLLAND
02820	JO ANN VON LUSKEN
02933	DICK VOORHEES
03808	PAMELA VOORHIES
04451	KAY VORPAHL
04053	MARILYN VOSIKA
04054	MICHAEL E. VOSIKA
03694	JIM VOYLER
00047	MARY VRANIZAN
03934	ROGER VRILAKOS
04905	KEITH VUYLSTEKE
03253	CLIFFORD J. WADKINS
00842	CHRISTIAN WAGENMAN
00836	INEZ E. WAGENMAN
04768	MARK L. WAGNER
01984	CHRIS WAGONMAN
02994	GLENNEL D. WAH
01762	MABEL J. WAKEFIELD
01676	REX W. WAKEFIELD
01301	JON WALBERG
03921	PETER S. WALCZAK
00912	EPHRIAM D. WALDRON
01437	DIANA WALES
01501	JOE WALICKI
01494	BRENT C. WALKER
04662	D. D. WALKER
02836	DON WALKER
02420	ELIZABETH A. WALKER
02834	ERIC WALKER
02418	JOAN K. WALKER
01876	JUDY WALKER
02419	J. SCOTT WALKER
04660	ROBERT A. WALKER
04638	STEPHEN WALKER
04647	WAYNE WALKER
04120	HAROLD WALKERST
03791	JAMES F. WALL
03088	DAVE WALLACE
00384	DAVID & MARSHA WALLACE
02936	HARVEY M. WALLACE
02917	KIRK WALLACE
02902	JACK L. WALLIS
01491	MURIEL WALLIS
00159	RACHEL WALLEN
03636	ROBERT H. WALLS
03886	STEVE WALLS
04692	BRIAN A. WALSH
00277	C. L. WALTEMATH
01290	LEON WALTER
01751	RUSS WALTERS
02724	DOROTHY WALTON
04033	LYLE WALTON
02193	MIKE WALTON
02194	SANDRA WALTON
04593	NEVA WALTSON
00099	GRETCHEN WALY
02446	JIM R. WANDLING
00885	CRAIG S. WANNER
00892	KIM WANNER
03435	S. TIMOTHY WAPATO
00244	CAROLINE WARD
03306	GEORGE WARD
04418	JAMES WARD
00530	MIKE W. WARD
04537	PAMELA WARD
00222	RAYMOND A. WARD
02909	JANICE M. WARDEN
01656	JEROL WARE
01663	MAGDALENA WARE
03046	DEAN A. WARNER
02359	LARRY WARNER
03967	MARY WARNER
01688	CHRISTOPHER WARREN
03707	GREG WARREN
03325	JERRY WARREN
01934	KEITH WARREN
00154	RENA WARREN
03286	BERDIE L. WASER
03142	WM. D. WASHBURNE
01027	JOHN WATKIN
01736	CHARLES O. WATKINS
00895	JOHN WATKINS
00129	RICHARD WATKINS
01661	BOB WATSON
03600	DALE WATSON
00204	DAVID A. WATSON
04121	F. WATSON
01118	JAMES WATSON
02495	PEGGY J. WATTER
03371	JAMES CARROL WEAR
03327	TRAVIS WEAR
00841	R. K. WEART
02727	CARRIE J. WEATHERS
02729	DARCIE G. WEATHERS
01618	JAMES V. WEATHERS
02456	MICHAEL F. WEATHERS
04070	GAY L. WEAVER
00352	DAVID WEBB
04911	GARY L. WEBB
00913	JAKE WEBB
00857	MICHELLE E. WEBB
00818	NANCY WEBB
02033	STEVE WEBB
01891	ARTHUR L. WEBER
04575	DENNIS WEBER
03595	ROSS E. WEBER
03936	VIRGINIA WEBER
02931	CHARLES N. WEBSTER
01940	STEVE A. WEED
03843	STEVEN M. WEEMS
00908	GARY W. WEHL
03647	HARRY L. WEIERS, SR
03246	JACK WEIGAND
00861	WILLIAM J. WEILER
00283	BOB WEINREICH
00358	GERALD J. WEIS
00312	ROY S. WEIS
04146	L. RANDALL WEISBERG, ESQ
01691	ALBERT C. WEISE
02248	CATHY WEISS
04269	DAVID WEISS
02556	GARY N. WEISS
02555	MARY S. WEISS
00794	GLORIA J. WEITMAN
00792	RICH S. WEITMAN
03340	SHERMAN WELD
01000	DENNIS WELLE
00010	ARNOLD WELLROCK
04457	JUDY WELLS
03523	MIKE WELSCH
02983	BILL WELTER
04440	BETTY WELTY
02805	MIKE WENDLAND
03360	MICHAEL L. WENDLING
03308	RICHARD WENGER
00840	DONALD B. WERRY
04756	BERNIE WERTGEN
02565	GEORGE B. WERTGEN
02349	AARON WESEMAN
02852	ANTHONY A. WESEMAN
00295	CHARLES E. WESEMAN
02816	ERICA L. WESEMAN
01140	DEANE WESSELINK
03387	ANDREW M. WEST
00866	CHRIS WEST
00865	MARLA SUE WEST
00867	MEGAN WEST
02053	R. C. WEST
01689	HAL WESTBROOK
04598	SUSAN WESTERVELT
00133	JOHN & MARTHA WESTGATE
04878	RUSS WESTMARK

02772	JOHN P. WESTON
02176	TOM WESTRE
02101	LONNIE WETHERELL
01969	LEONARD WETZLER
04516	BOB WEY
01621	DAVID L. WEZA
00279	STEVEN B. WHEELER
02452	JENNY WHIPKEY
02451	TERRY WHIPKEY
03607	HERALD W. WHITE
00760	KAREN WHITE
01280	LEWIS WHITE
02306	PHYLLIS H. WHITE
02280	RANDY WHITECOTTON
02151	ROGER WHITECOTTON
03341	ROY WHITING
01833	BARBARA WHITMORE
01834	DICK WHITMORE
01933	MATTHEW & REBECCA WHITNEY
01061	PETER WHITNEY
00525	MICHAEL WHITTED
00795	NOYES WHITTEN
03406	JAMES L. WICK
00305	JAMES R. WICKELSON
01296	KEN W. WICKERSHAM
00084	BOYD E. WICKMAN
01260	LARRY WIDINER SR.
01075	SUSAN WIEBOLD
02502	BILL WIEMEYER
01302	W. E. WIESINGER
01104	NEIL WIIDANEN
01016	JENA WILBURN
04461	BUSTER WILCOX
02410	LELA WILCOX
00729	DAVID W. WILD
01998	GLADYS WILDS
01999	RICHARD T. WILDS
03727	JAMES WILEY
00630	SCOTT WILHELM
04367	JOAN WILKE
04423	GILBERT WILKES
01186	TIM WILKINSON
00751	MR. WILKINSON
02646	R. D. WILLHITE
04063	BONNIE WILLIAMS
02210	BRUCE WILLIAMS
04713	CHUCK WILLIAMS
02594	CLYDE WILLIAMS
02467	DON WILLIAMS
02370	JAMES D. WILLIAMS
04000	JULIE WILLIAMS
04096	JULIE WILLIAMS
03540	KEVIN WILLIAMS
01133	LANNY WILLIAMS
00139	LESTER M. WILLIAMS
02519	PHILIP J. WILLIAMS
00651	ROBERT L. WILLIAMS
02044	STEPHEN B. WILLIAMS
01786	THOMAS D. WILLIAMS
04540	ROB WILLIS
02714	BRUCE R. WILLITE
03174	JEFF WILLS
01362	BABS WILSON
00922	BRAD WILSON
03151	DOUGLAS NEIL WILSON
03412	JOHN O. WILSON
02313	RICK WILSON
02170	ROBERTA WILSON
00158	STAN WILSON
03229	VIC WILSON
01660	JOHN M. WILT
03651	JOHN R. WILTZ
03161	TIM C. WIMM
02715	RONALD L. WINELAND, JR
01295	LEO WINK
04340	LYLE WINKEL
04281	DENNIS WINNER
04331	MARIA WINNER
01469	CRAIG WINNETT
04272	JEFF WINSLOW
02074	R. E. WINSLOW
02285	KELLY S. WINSTON
00336	TIMOTHY K. WINSTON
00976	HOWARD WINTERS
03197	GARY B. WIRKKALA
01404	DON WITTE
03084	GEORGE WITTEMYER
04543	R.L. WITTER
02598	WILLIAM SAM WITZEL
00679	MILLI WOHLERS
03457	BRENDA & TOM WOLD
02066	LISA WOLF
04151	REINHARD WOLF
00254	ROBERT E. WOLF
04017	DAVID WOLFE
02476	KARL M. WOLS
04506	DEBRA LEN WONG
02427	JOHN W. WONSYLD
02426	MARISA WONSYLD
04010	RALPH WONSYLD
02428	RONALD T. WONSYLD
01507	KI HUNG WOO
04393	CAROLYN WOOD
02711	CATHRYN L. WOOD
04156	DIANA WOOD
01752	JAN WOOD
03390	JOHN F. WOOD
04696	KAREN WOOD
01231	THOMAS WOOD
01672	THOMAS WOOD
02547	VIRGLE A. WOOD
03503	JEFF WOODALL
00851	TRACIE WOODMAN
02980	HENRY O. WOODRUFF
01167	JIM WOODRUFF
02657	BOB WOODS
03533	BURL WOODS
01005	DAN WOODS
03124	KENNETH WOODS
01054	LOIS WOODS
00933	R.D. WOODS
04006	RON WOODS
03081	FLORENCE WOODSIDE
03085	HARLAND E. WOODSIDE
03267	MARK P. WOODWORTH
01316	NANCY WOODWORTH
03741	RICHARD WOODWORTH
02560	WILLIAM E. WOODY
02011	DANIEL WOOTAN
01277	DOUGLAS WOOTON
03001	KATHLEEN WORLEY
02212	WILLIE WORNSTAFF
01923	DOROTHY W. WORRALL
03160	CAROLYN H. WORSHAM
01861	HARRY WORTH
01854	FRANK WORTHINGTON
03665	MICHAEL WORTHINGTON
03606	BILL WRIGHT
01720	DONALD P. WRIGHT
01282	JERRY D. WRIGHT
01686	NORMA JEAN WRIGHT
01647	PETE WRIGHT
01907	RON & KIM WRIGHT
02590	TAMMIE WUITSCHICK
03622	O. H. WUSTRACK
04277	LUCILE WYERS
00894	BETTY L. WYLAND
00893	QUINTEN R. WYLAND
03502	STEVE WYLER
00932	TODD WYLIE
02869	TOM WYSONG
01971	GEO. W. WYSS
02947	MARYANN L. WYSS
03012	KIM WYTTENBERG
02305	JOE YARAHEK
02637	TOM YASUI
03631	BRET YATES
03237	D. H. YATES
00817	JACK C. YATES
04307	JACKIE YATES
03419	REBECCA LEE YATES
00513	C. MARK YEOMAN
04644	MR. & MRS. BEN YETT
04388	MRS. ELIZABETH E. YOAKUM
01921	MARY BETH YOSSES
00401	WALLACE YOST
00724	WALLACE H. YOST
01443	CLAUDE W. YOUKER
03439	JACK W. YOUMANS
03134	BRAD YOUNG
00981	CLARENCE YOUNG
03535	DAVID YOUNG
00779	GLENDA L. YOUNG
04869	HENRY YOUNG
03720	JOHN YOUNG
04469	KATHERINE YOUNG
00769	LAURIE YOUNG
02437	MURIEL YOUNG
02626	MYRLE F. YOUNG
00198	RUTH H. YOUNG
00774	STEVEN YOUNG
00773	TINA YOUNG
04801	NANCY R. YOUNGER
02052	WILLIAM YOUNGMANN
01247	A. YUNG
01297	ROBERT A. YUNG
01236	JACK YWBOSITZ
00281	BONNIE M. ZACHER
01546	ANGELO ZAMPERIN
04711	LARRY M. ZANDER
00157	RICK ZANDOFSKY
01666	LEE ZEIGLER
01458	ROBERT W. ZELLER
03701	JULIE ZEMAN
03603	LOUIS ZEMER
01959	D. L. ZENER
03490	TOM ZENGEL
02442	LESTER E. ZIEGENBEIN
02737	LOVETA F. ZIEGENBEIN
04048	LEE ZIGLER
04322	CHRIS ZILKA
03944	MARGARET ZIMET
04467	ED ZIMMER
04198	MR. & MRS. THOMAS ZIVIC
04001	DAVID ZORLN
01776	BRUCE ZUBER
01789	JEAN L. ZUBER
04065	ROBERT D. ZUCK
01162	MIKE ZUHLKE
00718	JOE ZUMSTEIN, JR
01157	TOM ZUNCHER

Summary of Comments With Forest Service Responses

Summary of Comments with Forest Service Responses

Recreation

General Recreation

Comment

The Mt. Hood National Forest is ranked eighth nationally in recreation use, and that use is predicted to expand greatly over time. However, there is no unified, overall strategy for management of recreation resources in the proposed plan. The Plan does not adequately provide recreational interests.

> **Response**
>
> The Forest has developed a desired future condition or vision for recreation. This vision was developed in three parts: (1) Recreation demand was predicted based on the Pacific Northwest Outdoor Recreation Study (NORS) completed by the Parks and Recreation agencies of Oregon, Washington, and Idaho. (2) The outstanding recreation opportunities and sites on the Mt. Hood National Forest were identified. (3) A strategy was developed to meet the portion of future recreation demand that the Forest could physically achieve. In other words, the Mt. Hood National Forest has identified it's niche in providing future recreation opportunities for the public. See FEIS Chapter III, Recreation section, and Forest Plan Chapter 4.

Comment

We are disappointed that there were no alternatives developed for recreation. We do not think this is within the guidelines for preparation of this plan.

> **Response**
>
> Chapter II of the FEIS describes 8 alternatives for managing the Mt. Hood National Forest. Each alternative provides varying levels of recreation opportunities. Each alternative addresses a range of opportunities through the Recreation Opportunity Spectrum, visual quality, unroaded areas, Wilderness, Special Interest Areas, and Wild, Scenic, and Recreational Rivers.

Comment

The methodology of using RIM data coupled with population growth projections is questionable and underestimates the importance of developed recreation. This methodology should be re-examined. Using aggregate population growth trends in the counties of influence to predict future recreation needs is an inadequate indicator of demand. We also have concerns over methods to estimate developed recreation demand. While the plan states that the Forest has as sufficient supply through the year 2030, the 1983

Response to Public Comment

State Comprehensive Outdoor Recreation Plan (SCORP) cites a net need for more campsites in Multnomah, Clackamas, and Hood River Counties.

> **Response**
>
> Recreation demand has been re-examined using SCORP and NORS (Pacific Northwest Outdoor Recreation Study) data, see FEIS Chapter III. Chapter 4 of the Forest Plan describes the recreation program. This program is based on the recreation demand and the Forest's ability to meet the stated demand.

Comment

There is no recognition of the most recent recreation strategies promulgated by the Forest Service Washington Office.

> **Response**
>
> Chapter 4 of the Forest Plan describes Management Direction which includes Forest Management Goals and the Future Condition of the Forest. The principles of the "Recreation Strategy" have been incorporated into the Forest Goals and Future Condition.

Comment

The Plan should indicate how specific activity growth is to be monitored and what management strategies and options are to be employed to accommodate differential growth rates for specific activities. We have found no evidence that the preparation process of this plan utilized the SCORP to consider recreation opportunities, needs and trends as per 36 CFR 219.21(e).

> **Response**
>
> Recreational demand has been re-assessed in the FEIS. SCORP and NORS were utilized to indicate specific activity growth, see FEIS Chapter III. The future recreation program is then based on the projected growth rates of specific activities identified in SCORP and NORS, see Forest Plan Chapter 4.

Comment

The Plan failed to sufficiently integrate access rights for handicapped people. The Plan did not address additional angler access sites for handicapped persons on streams, lakes, or reservoirs.

> **Response**
>
> Chapter 4 of the Forest Plan describes Management Direction which includes Forest Management Goals and Future Condition of the Forest. Integrated access rights for handicapped people is a Forest Management Goal. All future recreation projects will consider the access rights of handicapped people. The process for project level decisions, such as angler access sites on a particular river or stream, are described in the project planning section of Forest Plan Chapter 5.

Comment

Why has not the subject of helicopter logging been addressed with regards to management of recreation areas and the myriad of other categories of management that have reduced timber cuts or no cut at all?

Response

The selection of specific logging systems such as helicopter logging is a project level decision made at the ground level. Please refer to Forest Plan Chapter 5 for a description of project planning.

Comment

We are very concerned about the impact of timber harvest activities will have on developed and dispersed sites on the forest. As harvesting takes place near these sites, the recreational value may decrease to the point where recreational use may be displaced. The Plan should present an analysis of the these possible impacts.

Response

Each existing Developed Recreation site is protected under the A-10 Management Area Prescription, see Forest Plan Chapter 4. In addition, selection of new sites will consider adjacent land allocations the effects of probable land management activities. For Dispersed Recreation sites, a process has been developed to identify, inventory, and track "Special Places" throughout the Area Analysis and decision making process. Decisions about Dispersed sites will consider the effects of timber harvest, and subsequent recreational use. See Forest Plan Chapter 4.

Comment

The NFMA regulations require the Forest Service to consider recreation opportunities already present and available on other public lands, with the aim of reducing the duplication in meeting recreation demands. The Forest Service not only ignored the recreation opportunities on other ownerships, but also ignored the opportunities on the Mt. Hood that would reduce the duplication of meeting the demand for semiprimitive nonmotorizing recreation.

Response

The use of SCORP and the NORS report in estimating recreation demand considered the contribution of other land ownerships in providing recreation opportunities, see FEIS Chapter III. In addition, the Forest Service is, in effect, the sole provider of semi-primitive non-motorized recreation forested settings.

Comment

We feel the Plan is inconsistent with traditional and historical management of the area since 1926. At that time the area was designated as a recreation area in the Land Classification Act of 1926.

Response

Congress passed the National Forest Management Act (NFMA) in 1976 which required each National Forest to prepare a Forest Plan. Chapter I of the FEIS describes the authority, basic laws and regulations by which the Forest Plan and FEIS is developed.

Comment

The issues revolving around recreation in the Government Camp and Timberline area are extremely complex and need more detailed description in the Plan. Winter recreation, visual management, Timberline Lodge, and scheduled timber harvest are inter-related issues of the area. The entire Mt. Hood recreation area should undergo special comprehensive planning independent of the general Forest Plan.

Response to Public Comment

Response

The resource values in the Government Camp and Timberline Lodge area have been re-examined based on public response to the DEIS and are described in Chapter III of the FEIS. Comprehensive planning is the purpose of Forest Planning, see FEIS Chapter I. The issues pertaining to the Mt. Hood recreation area are addressed in the FEIS and Forest Plan.

Comment

The Mt. Hood National Forest is subject to military overflight routes in the form of low-level training missions. Ideally training routes are located within areas which are relatively isolated; have diverse topography and minimal commercial activity; maintain sparse human populations; and contain lands under federal jurisdiction. These characteristics are also generally compatible with National Forest Systems. Inasmuch as low-level overflights do have the potential to disrupt the solitude and naturalness of area directly under their flight paths, we recommend you include consideration of these training missions in your discussion and decision making process wherever solitude and naturalness are desirable attributes within the forest system.

Response

Chapter III of the FEIS describes the situation concerning low-level military overflights.

Dispersed Recreation and Trails

Comment

What is not indicated in the Plan is how many trails will be lost to recreational use due to timber harvest and road building. While some mitigation may be possible, in many cases the recreational characteristics of the land area for which the trails provide access, and of the trail itself, may be lost.

Response

Trail visual quality objectives and corresponding Forestwide standards have been developed to protect every trail on the Forest at varying levels, see Forest Plan Chapter 4. The level of protection depends on the amount and type of use a trail receives, and the visual sensitivity level.

Comment

A number of recreational trails and related dispersed sites are located in C1 timber emphasis management areas. Once developed for timber, how will these be mitigated?

Response

Dispersed recreation sites by their nature are difficult to manage because they are usually hard to identify. Forestwide standards have been developed to address these Special Places, see Forest Plan Chapter 4. The Mt. Hood National Forest will strive to identify these sites during project planning and make conscious decisions about how to protect their integrity. In some cases, partial cutting will adequately protect the site, in others no timber harvest is the only way to protect a site, and yet in some cases impact or destruction of a site cannot be avoided. In each case however, a conscious decision will be made with full public involvement.

Comment

Back country lakes are popular recreation areas and important to dispersed recreation on the Mt. Hood. Some are roaded, others are accessible by trail. Many are at lower elevation and easily accessible to the urban weekend visitor. This is in contrast to wilderness areas requiring more time and resources for use. Many of these lakes under the preferred alternative are in timber emphasis management. Presumably, the only restrictions would be a 100 foot buffer along the lake. We believe this to be inadequate. The recreational quality of these areas should be maintained.

Response

The Forest has established a new land allocation for back country lakes. Lake standards that would protect the recreational quality at some level are examined in the Forest Plan Chapter 4.

Comment

We are confused by the prohibition of motorized summer, motorized winter and non-motorized mountain bicycle ORV use in management area A6: Roaded Recreation (FPD-4). This appears to be a direct contradiction of A6 management goals. A similar prohibition is cited for B3 areas, Roaded Recreation.

Response

The errors, inconsistencies, and contradictions between the ORV Plan (Forest Plan Appendix D) and Management Area standards (Forest Plan Chapter 4) have been corrected.

Comment

The Mt. Hood does not adequately address the needs for trail development for 4-wheel drive vehicles, motorcycles, or ATVs. These recreationists are under-represented in your plan.

Response

The Forest has re-examined the demand for off-road vehicle trails based on the Pacific Northwest Outdoor Recreation Study (NORS) and SCORP, see FEIS Chapter III.

Comment

Mountain bike trail use was not adequately addressed in the DEIS.

Response

The Mt. Hood National Forest has re-examined the demand for mountain bike trails based on the NORS and SCORP reports, see FEIS Chapter III.

Wild, Scenic and Recreational Rivers

Comment

The Clackamas, Roaring, Salmon and White Rivers have been found to be eligible for designation under the Federal Wild and Scenic Rivers System. The White River is not recommended in the preferred alternative. We believe it should be recommended along with the other three rivers in the preferred alternative.

Response

The Clackamas, Roaring, Salmon, White, and Sandy Rivers were congressionally designated on October 28, 1988 as part of the Omnibus Oregon Wild and Scenic Rivers Act, see FEIS Chapter III.

Comment

The Plan fails to assess for eligibility any other deserving rivers on the Forest. We believe this to be a violation of the Forest Service's own guidelines and of Federal law.

Response

The Mt. Hood National Forest has conducted an eligibility study of potential rivers, see FEIS Chapter III, for results. With the exception of the East Fork Hood River, suitability studies on the eligible rivers will be conducted during Forest Plan implementation. This will allow more time to gather necessary field data and involve the public. Suitability for the East Fork Hood River has been completed, see FEIS Chapter III.

Comment

The wording in the suitability matrices which describe changes to river environments and factors as a result of management is unclear. It should be rewritten to clarify that designation will result in continued management of the river corridors to protect the resources inherent in their consideration for designation.

Response

All rivers studied for suitability in the DEIS plus the Sandy River were designated as Wild and Scenic in the 1988 Omnibus Oregon Act, see FEIS Chapter III. Forest Plan Chapter 4 contains management area standards that direct activities in the designated rivers.

Comment

The standards contained in the Draft Plan for the Mt. Hood National Forest are inadequate for the protection of eligible wild and scenic river candidates. While the intent of the standards may be to protect eligible rivers in their present condition, they do not provide specific protections mandated through the USDA/USDI Interagency Guidelines and the Forest Service Handbook, Chapter 8.

Response

The Standards for Management Area B1, Wild, Scenic and Recreational Rivers, (see Forest Plan Chapter 4) have been re-examined for consistency with the 1988 Omnibus Oregon Wild and Scenic Rivers Act, the above mentioned Guidelines and Handbook, and to protect the values for which the river was designated. The newly studied eligible rivers will have specific standards to protect the classification and protect the outstandingly remarkable values for which the river was found eligible, see Forest Plan Chapter 4.

Unroaded Recreation

Comment

The U.S. Forest Service is virtually the sole provider of semi-primitive opportunities in a forested setting. Once developed for other uses, the semi-primitive character of these lands would be most difficult to re-establish; management options for the next generation will be severely reduced. Given the scope and depth of this issue, we suggest all existing roadless areas should be managed for semi-primitive recreational opportunities.

> **Response**
>
> The Forest re-examined the mix and allocation of roadless areas based on more current recreation demand information, see FEIS Chapter III. Final allocations reflect the new analysis, see Forest Plan Chapter 4.

Comment

There are 130,000 acres of unroaded timberland which was released for timber management by the Oregon Wilderness Act of 1984. The Forest Service has arbitrarily chosen to leave a large part of these areas unroaded just in case they might again be considered for wilderness designation. It appears to me this is contrary to the intent of the act of 1984 and may not be legal.

> **Response**
>
> The Oregon Wilderness Act of 1984 released lands not designated as Wilderness for multiple use management. Providing semi-primitive non-motorized recreation opportunities in an unroaded setting is a multiple use of National Forest lands (see Chapter III, FEIS).

Comment

There are 10 roadless area on the Mt. Hood National Forest totaling 130,000 acres. The range of development varies from 0% entry to 16% entry. Of the nine alternatives examined in the EIS, none examine entry into more than 16% of the roadless acreage during the ten year plan period. The narrow range considered for roadless development also violates NFMA's requirement to develop a proper transportation system. The DEIS did not consider a wide range of roadless area development for timber production, mineral leasing, etc., in the first decade.

> **Response**
>
> The transportation system is a function of what is necessary to properly manage the National Forest and serve public needs as determined by the Management Areas and Desired Future Conditions in the Forest Plan. Chapter II of the FEIS describes the process used to develop alternatives, the alternatives in detail, and summarizes the outputs, effects, and economics. Moreover, the Oregon Wilderness Act of 1984 does not call for harvesting in released roadless areas. It calls for multiple use of released areas, of which, unroaded recreation is a multiple use, see FEIS Chapter III.

Comment

The priority of roadless area entry was identical in each alternative. No rationale is provided for the roadless priorities. Alternative findings were not considered.

Response

The rationale for prioritizing roadless area development is displayed in the Record or Decision (ROD), not the EIS. The rationale is based on the supply and demand for semi-primitive non-motorized recreation settings (see FEIS Chapter III) and the opportunities for providing those settings (see FEIS Chapter IV and Appendix C).

Comment

The Mt. Hood violated the 1984 Wilderness Act in developing a priority list of roadless areas that will not be harvested. The priority list was based on decision criteria that relied exclusively on the fact that a roadless area is adjacent to an existing wilderness.

Response

The Oregon Wilderness Act of 1984 does not call for harvesting in released roadless areas. It calls for multiple use of released areas, of which, unroaded recreation is a multiple use. The criteria for developing roadless areas was based on the public demand for primitive and semi-primitive non-motorized recreation opportunities, and which roadless areas could best provide those opportunities (see FEIS Chapter III). The rationale was not based on proximity to existing Wilderness Areas.

Comment

The massive semi-primitive non-motorized reservations in the preferred alternative violate the substantive requirement of the Multiple Use Sustained Yield Act to protect the forest from insects and disease.

Response

Chapter 4 of the Forest Plan provides Forest Management Direction and Management Area Standards to effectively protect the forest from insects and disease.

Comment

The Draft Plan and DEIS present an inadequate range of alternatives in terms of roadless area preservation. The reviewer has only three real options to help in choosing an alternative: the protection of zero, three to four, or all ten roadless areas. A broader range of choices should be provided.

Response

The levels of roadless area development range from 0% to 100%, see FEIS Chapters II and IV, and Appendix C.

Comment

The Forest Plan and the accompanying Environmental Impact Statement are inadequate because they do not describe in sufficient detail the roadless areas which would be opened to logging under the Preferred Alternative.

Response

Appendix C of the FEIS describes the effects to each roadless area and its wilderness qualities if the area is harvested.

Comment

In general, roadless areas are a scarce commodity in the Forest. Demand for recreational opportunities will only grow as Portland grows over the next few decades. On the other hand timber production in the Forest will decline in importance as the Portland economy continues to diversify. The Preferred Alternative fails to account for this probable future trend and gives too much weight to timber production and not enough weight to wilderness recreation.

Response

The future supply and demand for semi-primitive non-motorized and primitive recreation opportunities is explained in FEIS Chapter III.

Comment

On page 33 of FEIS Appendix C is the statement, "Development of the Larch Roadless Area includes trails and recreation facilities. These features affect less than 10% of the area." Whatever the basis for the "...less than 10%..." estimate, it is decidedly misleading. The draft Forest Plan has underestimated the scenic, natural, and recreation values of the Larch Mountain and Nesmith Point Areas.

Response

Estimates of area covered by trails and recreation facilities includes only those trails and facilities managed and maintained by the Forest Service, or in partnership with the Forest Service.

Winter Recreation

Comment

We reject the notion that other areas suitable for further ski area development do not exist on the Forest. We request that the wording "there are no other sites on the Mt. Hood that are suitable for development as ski areas", on page A-35 of the appendix, the second sentence on the page, should be stricken from the report as this is an absolutely incorrect statement. In the land exchange appraisal of the area south of Multorpor Mountain and near Eureka Peak, the value of the land was substantially increased because of this potential.

Response

There are very few areas left on the Mt. Hood above 5000 ft. (consistent snow level) and outside Wilderness with varied terrain for quality downhill skiing. Eureka Peak has been studied for ski area development. Some good terrain on the north facing slopes offer some potential for development, but the peak lies below 5000 ft. The statement referred to has been re-worded to imply that no other sites meet certain criteria for developed ski areas. This does not preclude expansion of existing areas, see FEIS Chapter III and Forest Plan Chapter 4.

Comment

The RIM statistics used to show current ski area use are seriously flawed. In the calculations of capacity of the area, the assumption that skiers spend only 4.75 hours in the area, is incorrect.

Response

The assumptions for skier visit length of time have been re-examined using SCORP and NORS data, see FEIS Chapter III.

Response to Public Comment

Comment

Alternative A listed current existing ski area permits at 6450 acres, where the actual present permits are 6903 acres; a difference of approximately 453 acres.

Response

These figures have been re-checked for accuracy.

Comment

It is quite clear that the currently available facilities and designated skiing areas will soon be inadequate for the anticipated increase in popularity of the sport. Preventing any increase in development of existing sites or creating new sites is discriminatory to say the least. The proposed plan should allow for development of centers for Nordic skiing in addition to expansion of ski lifts for Alpine skiers.

Response

These types of decisions are appropriate to the project level, please refer to Forest Plan Chapter 5 for a description of project planning. In addition, demand for alpine and Nordic skiing has been re-examined based on SCORP and NORS data, see FEIS Chapter III.

Comment

The possibility of the Olympic Games being held in the Mt. Hood area was not addressed, or even mentioned in the Forest Plan.

Response

The bid for the Olympic Games in Oregon has been dropped, consequently this issue was not addressed in the FEIS.

Wildlife

Management Requirements

Comment

The Forest Service's use of minimum legal standards or minimum management requirements greatly exceed the statutory standards established in the NFMA and are therefore unlawful without formal rule making. 16 USC Sec. 1604.

Response

As stated in FEIS Chapter II and Appendix G, MR's are the minimum requirements which must be met to accomplish the goals and objectives of the National Forest System, as outlined in 36 CFR 219, National Forest Management Act (NFMA) of 1976. "These requirements guide the development, analysis, approval, implementation, monitoring, and evaluation of forest plans" and that "all management prescriptions shall provide for adequate fish and wildlife habitat to maintain viable populations of existing native vertebrate species." Viable populations being enough individuals to readily reproduce young sufficient to maintain the species (a population should have enough individuals to insure genetic diversity).

USDA Regulation 9500-4 established Departmental policy for wildlife, fish and plant habitat to reflect the direction of NFMA for viable populations. From there, Forest Service Manual (FSM) 2603 addresses species viability. The responsibility for implementation of the policy developed in FSM 2603 was assigned to the Regional Forester. FSM 2604.2 directs the Regional Forester to prescribe and implement regional objectives and policy for fish, wildlife and plants; and to develop standards for the maintenance of viable populations.

Standards and guidelines for these management requirement areas are found in Forest Plan Chapter 4.

Pileated Woodpecker and Pine Marten Management Areas

Comment

The Forest should provide the following pileated woodpecker habitat: 500 contiguous acres old growth and or mature for nesting and roosting, 500 acres (2 snags per acre)(greater than 7 inches diameter at breast height) for forage.

Response

Current pileated woodpecker management areas consist of 600 acres of suitable habitat with a core area of 300 contiguous acres of old growth and or mature forest per pair. The 300 acre core must have an average of two hard snags per acre greater than or equal to 12 inches in diameter at breast height.

Comment

Pileated habitat areas should be distributed core to core instead of edge to edge.

Response

Areas were identified to provide habitat for one reproducing or breeding pair of pileated woodpeckers and pine marten and any other wildlife species associated with this habitat. They must be distributed an average of 5 miles apart between centers of nesting habitat for pileated woodpecker and 2 miles for pine marten. These will be laid out on a grid system throughout the forest. Standards and guidelines for Pileated Woodpecker areas are found in Forest Plan Chapter 4.

Comment

Manage, as opposed to "dedicate", habitat for 51 pair northern spotted owl, 102 pair pileated woodpecker, and 231 pair pine marten.

Response

As stated in Forest Plan Chapter 4, the goal is to manage mature or old growth forest habitat of sufficient quality, quantity, and distribution to sustain reproductive pairs of pileated woodpecker and pine marten within the management requirement areas.

Response to Public Comment

Spotted Owl Habitat Areas (SOHA's)

Comment

We recommend that the Forest provide 2,200 acres of old growth and or mature forest for each "pair" of Northern Spotted Owls.

> **Response**
>
> Opinions have been noted and considered in FEIS Chapter III. In keeping with the Regional Forester's direction our present SOHA size consists of 1500 acres of suitable owl habitat. Limited activities are allowed within SOHA's provided conditions are not detrimental to managing for spotted owls. See FEIS Chapter II and Appendix F for further discussion of spotted owl management areas.

Comment

Protect SOHA's against firewood cutting.

> **Response**
>
> Firewood cutting should not be allowed within SOHA's. See Spotted Owl management area standards, Forest Plan Chapter 4.

Comment

Maintain, for spotted owls, large contiguous blocks of habitat which would support multiple pairs.

> **Response**
>
> The Final Supplemental Environmental Impact Statement (FSEIS) to the Pacific Northwest Regional Guide for spotted owls and the Forest Standards and Guidelines require that designated spotted owl habitat be as contiguous as possible. Spotted Owl Habitat Areas (SOHA's) have been identified and will be managed to provide size, quality, and distribution of old growth habitat as required by the Regional Guide. For further discussion of SOHA's, see FEIS Chapter III and Forest Plan Chapter 4 (Standards and Guidelines).

Comment

Would like to see all known pairs of northern spotted owls protected and provided for within optimum habitat boundaries.

> **Response**
>
> Under all alternatives (except NC), a network of 38 SOHA's and 28 reserved network sites (i.e. Wilderness land) will be maintained on the Mt. Hood National Forest. These 66 sites meet the habitat and distribution criteria required by the Final Supplemental Environmental Impact Statement (FSEIS) to the Pacific Northwest Regional Guide for spotted owls. FEIS Chapters I, II and Appendix B and Forest Plan Chapter 4 discuss the objectives, management concerns and standards for spotted owl habitat areas. Owls outside of these management areas will be protected in accordance with the Endangered Species Act.

Threatened, Endangered, and Sensitive Species (TE&S)

Comment

Coordinate Oregon Natural Heritage data base with the Forest Service "data base" in order to further develop list "of Threatened, Endangered, and Sensitive Species".

Response

The Mt. Hood National Forest and the Oregon Natural Heritage Database have coordinated their respective lists of TE&S plants and animals. For a list of TE&S species see FEIS Chapter III.

Comment

Add to EIS "Oregon passed an Endangered Species Act (1987 Session)".

Response

The Oregon Endangered Species Act, 1987, requires that all Federally listed species be automatically included on the initial state list. This clarification has been added.

Comment

Identify threatened and endangered habitat.

Response

Specific locations of sensitive habitat areas for TE&S species will not be publicly displayed due to their sensitive nature.

Comment

There needs to be an established bald eagle recovery plan that would outline the Forest's specific recovery goals and management prescriptions for this species.

Response

Within two years of implementation of the Forest Plan, a bald eagle management plan will be prepared for the Forest.

Comment

In the DEIS it is stated "no federally listed threatened or endangered species (wildlife) are known to live on the Forest at this time." It seems odd that a forest which has "...18,000 acres, plus 5,000 miles of perennial intermittent streams, and 175,000 areas of associated riparian areas" supports no bald eagle.

Response

This statement has been corrected. See FEIS Chapter III for a description of bald eagle considerations.

Comment

The DEIS does not accurately describe the needs and conditions for peregrine falcon and bald eagle for the next decade. Identify and maintain potential habitat (recovery sites) for bald eagles and peregrine falcons. Clarify the management and protection of all inventoried bald eagle sites.

Response

Needs and considerations for the bald eagle and peregrine falcon are specifically outlined in FEIS Chapter III, Wildlife section. Sites inventoried as suitable for nesting and roosting for bald eagle have been identified by the Forest Service and the Oregon State University Cooperative Wildlife Research Unit. A cooperative agreement exists between the Mt. Hood National Forest and the Oregon Department of Fish and Wildlife to reintroduce peregrines into habitat along or in the Columbia Gorge area as well as the North Cascades. The management of inventoried bald eagle sites is described in the standards for Bald Eagle Recovery Management Areas, see Forest Plan Chapter 4.

Comment

DEIS does not accurately describe the status of T&E species on forest or ongoing T&E activities.

Response

The TE&S section has been reworked for the final Forest Plan, see FEIS Chapters III and IV. Needs and considerations for all sensitive species (plant and animal) will follow the 4 point procedure for Biological Evaluation as explained in FEIS Chapter III. A table listing the sensitive animals found on the Mt. Hood has been added to FEIS Chapter III. At present there is one Federally listed endangered species (Peregrine Falcon) and two Federally listed threatened species (Bald Eagle and Northern Spotted Owl) living on the Mt. Hood National Forest.

Comment

Please describe the effects of alternatives on the T&E species and their potential habitats.

Response

The effects of alternatives on the T&E species and their potential habitats is presented in FEIS Chapters II and IV.

Comment

No apparent effort has been made to integrate USFWS recovery plans for bald eagle and peregrine falcon into any of the alternatives. There will likely be some conflicts and coordination needs with timber and recreation associated with management for those two species.

Response

See FEIS Chapter III for a description of Bald Eagle and Peregrine Falcon considerations. For Bald Eagle and Peregrine Falcon recovery plan's effect on alternatives, see FEIS Chapters II and IV.

Comment

Bald eagles and peregrine falcons should have MR's in the plan to assure proper management for these TE&S species as outlined in the NFMA, Forest Service manual, and Region 6 blue pages. Areas where these birds occur should be taken out of "B" land classification.

Response

See FEIS Chapter III for a description of Bald Eagle and Peregrine Falcon considerations.

Comment

MR's need to be established for the spotted frog and Larch Mountain salamander to assure proper management for these TE&S species as outlined in the NFMA, Forest Service manual, and Region 6 blue pages.

Response

MR's for spotted frog and Larch Mountain Salamander have not been established. The spotted frog is not currently listed as a TE&S species, but is covered under the National Forest Management Act (NFMA) to maintain viable population and density, 36 CFR 219. The Larch Mountain Salamander is a sensitive species, see FEIS Chapter III. Needs and considerations for all sensitive species will follow the four point procedure for biological evaluation, as explained in FEIS Chapter III.

Comment

Display list of Region 6 sensitive species, include wolverine, Western spotted frog, Townsends big-eared bat.

Response

See FEIS Chapter III for a list of Region 6 sensitive species.

Comment

The USDI Fish and Wildlife Service reviewed the Forest's Biological Assessment and submitted various informal consultation comments.

Response

In response to the Forest's request for a Biological Opinion on the DEIS and Draft Forest Plan, the USDI Fish and Wildlife Service submitted comments in the form of informal consultation. These comments are reprinted in the "Comments from Elected Officials, Agencies and Indian Tribal Governments" section of FEIS Appendix J. Changes were made to the FEIS and Final Forest Plan as a result of the informal consultation. The Forest has prepared a new Biological Assessment for the FEIS and Final Forest Plan. The USDI Fish and Wildlife Service has not yet responded to this second Biological Assessment.

Comment

Display Oregon Department of Fish and Wildlife (ODF&W) planning benchmark number for deer and elk.

> **Response**
>
> The ODF&W benchmark numbers for deer and elk are addressed and considered in FEIS Chapter III.

Comment

We recommend seasonal closures for winter range.

> **Response**
>
> Seasonal closures for winter range areas will be looked at on a site per site basis. See FEIS Chapter III for further discussion of winter range.

Comment

Provide definition of winter range and accompanying winter range maps.

> **Response**
>
> Updated definitions and accompanying winter range maps can be found in FEIS Chapter III and glossary.

Comment

Develop and implement "model" based on Wisdom (1986).

> **Response**
>
> The Mt. Hood has adopted the Wisdom model, see FEIS Chapter III. This model evaluates elk habitat based on the interactions of the following four variables: size and spacing of forage and cover, road density, cover quality and forage quality.

Comment

Identify Forest definition of optimal thermal cover.

> **Response**
>
> See the FEIS Glossary for a definition of thermal cover.

Comment

Add a sentence that acknowledges the need to well distribute optimal thermal cover.

> **Response**
>
> The discussion of the distribution of optimal thermal cover can be found in FEIS Chapter III.

Comment

The Oregon Department of Fish and Wildlife (ODF&W) recommends:

- Utilize winter range slope/aspect definition of 270,000 acres (ODF&W) vs 15,000 acres (Mt. Hood).
- 50% of winter range have well distributed thermal cover, 25% of which (or 12% of all lands) have optimal thermal cover.
- 1/4 mile optimal thermal cover each side of major winter range watershed drainages, of which 10% be in small (10 acre) forage and well distributed.
- Winter range objectives should constrain over all other activities.
- For cover/forage, have an average opening greater than 20 acres.
- That the Forest change "forest opening" criteria to 6 ft. trees for deer and 10 ft. trees for elk, instead of the current 4.5 ft.
- That the Forest establish 10 acres "permanent forage" at rate of 100 acres per year. Evaluate at end of 10 years.
- That the Forest enhance clear-cut adjacent to thermal at rate of 1,000 acres per year via seeding and fertilization.
- That the Forest utilize guidelines in Brown (1985) in regard to forage/cover placement.
- Resource Scheduling Areas should not overlay unavailable or unsuitable big game more than 1/4 mile.
- Pileated woodpecker, pine marten old growth habitat distribution patterns will not meet needs of deer and elk optimal thermal cover needs.

Response

ODF&W recommendations concerning winter and summer range, thermal and hiding cover, and forage areas have been addressed and considered in FEIS Chapter III. See Forestwide Standards and Guidelines for management levels for deer and elk habitat.

Old Growth Habitat

Comment

Clarify old growth acres between DEIS and Plan.

Response

The amount and location of old growth on the Forest was estimated using the updated Forest Vegetative Resource Inventory, 1989. For more discussion of old growth acres and definitions see FEIS Chapter III.

Comment

Clarify and display difference between old growth and mature acres.

Response

The difference between old growth and mature acres is clarified in FEIS Chapter III and in the Glossary.

Comment

Reflect the need to manage for an old growth ecosystem and old growth dependant species.

Response

The old growth issue is discussed in FEIS Chapter I, ecosystem diversity is discussed in FEIS Chapter III. These discussions have been revised to reflect old growth ecosystem and habitat values.

Comment

Display location of old growth.

Response

A map of old growth on the Forest can be found in FEIS Chapter III. For further discussion of old growth acres and definitions see FEIS Chapter III.

Comment

Use regional guide definitions for identification of old growth habitat by community.

Response

The PNW-447 definition of old growth is used were applicable and the Pacific Northwest Regional Guide definition is used for the remainder of the Forest. For further explanation of old growth definitions used by the forest, see FEIS Chapter III.

Comment

Old growth guidelines do not prohibit firewood cutting. Also open road criteria not met.

Response

Standards for Special Old Growth Areas and Northern Spotted Owl Areas prohibit firewood cutting, see Forest Plan Chapter 4. No new roads are to be constructed within "old growth" management areas.

Comment

Existing research suggest that fragmentation of old growth stands may result in irreparable damage to both plant and animal communities. This may result in a disruption of gene flow within species, as well as affecting population dynamics of species dependent on old growth. In order to avoid this, strips of old growth should join all islands of old growth together.

Response

Fragmentation of old growth and it's possible affect on the dynamics of old growth dependent species is discussed in FEIS Chapter III.

Comment

I am alarmed by the usage of the term "old growth" as defined in your forest plan. This term speaks of trees of 200 years of age or older. This is definitely not an adequate definition of true old growth forest. I believe that this quoted term reflects an attempt to call trees that are not truly old growth by this designation.

> **Response**
>
> Chapters II, III and IV have all been changed to better reflect the kinds of old growth found on the Forest. Definitions for old growth used by the Mt. Hood National Forest are from the Regional Guide and PNW-447, see FEIS Chapter III.

Wildlife Monitoring and Evaluation

Comment

Acres of habitat should be monitored instead of numbers of animals; for example, pine oak habitat.

> **Response**
>
> Both acres of habitat and numbers of animals will be monitored as required by planning regulations. See Forest Plan Chapter 5.

Comment

Fish and Wildlife Service believes monitoring inadequate to protect certain habitats.

> **Response**
>
> The monitoring section has been reworked. Concerns and recommendations have been addressed and considered. See Forest Plan Chapter 5.

Comment

Include "occupancy" verification as part of monitoring plan, include statistical sample of sets.

> **Response**
>
> The monitoring section has been reworked. Occupancy verification and sampling methods will be addressed as part of each monitoring plan for specific resource elements. See Forest Plan Chapter 5.

Comment

We recommend that ODF&W and the Forest Service develop "cooperative" position to monitor fish and wildlife related activities.

> **Response**
>
> The recommendation has been addressed and considered for monitoring plans of each resource element, see Forest Plan Chapter 5.

Response to Public Comment

Wildlife Standards and Guidelines

Comment

Fish and Wildlife Service recommended additional Standards and Guidelines to protect certain sensitive habitats.

Response

The Standards and Guidelines section has been reworked, see Forest Plan Chapter 4. Agency recommendations were evaluated and considered for inclusion to the Final Forest Plan.

Comment

Oregon Department of Fish and Wildlife recommends using strong set standards and guidelines that have clear and objective standards.

Response

The Standards and Guidelines section has been reworked, see Forest Plan, Chapter 4. Agency recommendations were evaluated and considered for inclusion to the final Forest Plan.

Comment

Create Standards and Guidelines to prohibit developed recreation in "sensitive" wildlife areas.

Response

Questions concerning the development of recreation in "sensitive" wildlife areas on the Mt. Hood are dealt with at the District level, as part of the Environmental Assessment procedure, on a case by case basis.

Standing Dead and Dead and Down Trees

Comment

Adopt a 60% minimum snag level for general forest and a 100% minimum snag level for other allocations. Rectify past areas (with greater than 60%) by managing adjacent/equivalent snags at 100%.

Response

See Forestwide Standards and Guidelines for minimum snag levels on new timber harvest units. These are measured at the Forest and or analysis area level. See FEIS Chapter III, for more information regarding snags.

Comment

Four snags per acre is not going to provide 60% of biological potential for cavity nesting species. Current research has shown that 12-14 trees per acre is needed to maintain 60%.

Response

To maintain 60% of biological potential (BP) for primary cavity nesting species, new timber harvest units will be addressed on a site by site basis and managed accordingly. Number of trees left per acre to achieve 60% BP will vary with tree species, site location and indigenous species managed for. See FEIS, Chapter III and Forest Plan, Chapter 4, Forestwide Standards and Guidelines.

Comment

Determine number of live replacements needed for hard snags. Display method for snag protection.

Response

Number of live replacement trees (green trees) retained will be addressed on a site by site basis and managed accordingly. Number of trees left will vary according to tree species, site location and species of wildlife managed for. See FEIS, Chapter III and Forest Plan, Chapter 4, Forestwide Standards and Guidelines.

Comment

What are the effects of the wildlife snag retention program? Is this program effective in maintaining and increasing wildlife populations?

Response

Standing dead (snags) and dead and down trees are an important component of forests, especially old-growth. Many species of birds, as well as other vertebrates, (especially cavity nesters), are dependant upon them for perching, feeding and nesting. For further explanation see FEIS Chapter III.

Management Indicator Species (MIS)

Comment

No rationale given for selection of indicator species.

Response

The MIS were chosen because they require a particular habitat or respond similarly to different management practices. For further explanation of MIS, see FEIS Chapter III.

Comment

Adopt MIS for: riparian zone, deciduous forest, aquatic, pine/oak.

Response

We have not yet identified a MIS for riparian or deciduous areas. MIS have been identified for pine/oak. See FEIS Chapter III.

Comment

Include in MIS discussion: pileated woodpecker, pine marten, turkey, and silver-gray squirrel.

Response

These species are included in the MIS discussion, see FEIS Chapter III.

Response to Public Comment

Comment

Clarify statement regarding "minimum viable population."

> **Response**
>
> A minimum viable population must have enough individuals to readily reproduce young sufficient to maintain the species (a population should have enough individuals to insure genetic diversity). See FEIS Chapter III and Glossary.

Comment

ODF&W offers more recent population estimates for MIS of silver-gray squirrel, turkey, deer and elk.

> **Response**
>
> ODF&W population estimates have been addressed and considered, see FEIS Chapters II and III.

Watershed and Fisheries

Comment

The DEIS contains no analysis of the effects of management activities on streambank stability, stream morphology, substrate quality, turbidity, macro invertebrate populations, timing of flows, downstream impacts, pool/riffle ratios, large organic debris, and fish habitat quality and quantity.

> **Response**
>
> The analysis in Chapter IV incorporates these factors in assessing the effects of management activities associated with each alternative.

Comment

The discussion of riparian conditions and use of the Aquatic Stability Index are inadequate to gauge cumulative impacts of management activities. Suggest using a watershed-by-watershed analysis technique.

> **Response**
>
> The aquatic stability index includes all the parameters that are likely, on a gross scale, to have overall positive or negative effects from implementing an alternative. Therefore, when applied on a drainage basis, the model does an adequate job of estimating cumulative effects.
>
> Professional watershed specialists at the District and Forest level identified several watersheds as being particularly sensitive to the impacts of management activities. A methodology was applied to each of the identified watersheds to assess inherent characteristics influencing watershed sensitivity. The analysis resulted in several watersheds being recommended for designation as Special Emphasis Watersheds under various alternatives. The methodology is discussed in Chapter IV of the FEIS.

Comment

The DEIS and Forest Plan do not adequately discuss the effectiveness of BMPs for ensuring compliance with State water quality standards.

Response

Best Management Practices (BMPs) for protection of water quality are discussed more fully in the document General Water Quality Best Management Practices, Pacific Northwest Region, November 1988. Typical BMPs related to project planning, mitigation, and restoration are discussed in FEIS Chapter IV and Forest Plan Chapter 5. BMPs are designed to meet state water quality standards (to adequately protect beneficial uses of the water) by minimizing erosion, sedimentation, and stream temperature increases, etc. The Clean Water Act, PL 95-217, requires meeting state water quality standards, through application of BMPs. A Memorandum of Understanding between Oregon Department of Environmental Quality and USDA Forest Service, 2/12/79 and 12/7/82, recognizes the role and effectiveness of BMPs. A discussion of the effectiveness of typical BMPs, based on past experience, is included in FEIS Chapter IV. Monitoring requirements for compliance, effectiveness, and validation of BMPs are discussed in the cited Regional BMP guide and in Forest Plan Chapter 5.

Comment

The DEIS does not adequately discuss the effects on water quality and riparian area management in the event that expected funding levels are not realized with the adoption of the preferred alternative.

Response

FEIS Chapter IV states that predicted conditions and effects associated with each alternative assume that mitigation and rehabilitation measures would be fully and routinely funded and applied on a timely basis. The section continues to disclose that expected conditions would be worse than described if measures are inadequately funded, poorly designed, or incompletely applied. The extent of these effects is dependent on the amount of funding reduction and the availability of other opportunities and alternative resources during Plan or project implementation.

Comment

The DEIS (III-14) states that water quality of several watersheds has declined. If that is the case, it appears that current Best Mangement Practices (BMPs) are not adequate to protect water quality and thus not in compliance with state water quality standards.

Response

As discussed in the DEIS and FEIS, Chapter III, the major examples of degraded watershed condition and water quality appears to be directly related to the removal of large organic debris (LOD) from stream systems over the past two decades. Subsequent to the 1964 flood event, a large majority of forest managers and watershed specialists believed there to be a direct correlation between the amount of damage associated with catastrophic flood events and the "excessive" accumulation of woody debris in stream channels. Up until the early 1980's the Forest Service was engaged in the well-intentioned but misguided practice of removing LOD from channels, which resulted in decreased channel stability and degraded water quality. Subsequent monitoring and research has shown that earlier assumptions and practices were in error. In other instances, monitoring has shown that degraded water quality is generally related to the failure to implement standard BMPs in a timely manner rather than to the ineffectiveness of the practices. Continued monitoring, discussed in FEIS Chapter 4, and Forest Plan Chapter 5, will endeavor to assure compliance and determine effectiveness of BMPs. BMPs are expected to change over time, reflecting our evolving knowledge of hydrologic and aquatic processes.

Response to Public Comment

Comment

Forestwide riparian area standards lack clear direction.

Response

The intent of these standards is to provide broad Forestwide direction, not detailed site specific direction which is best provided by experienced watershed specialists at the project level. Several new standards related to large woody debris input, channel morphology and pool frequency, municipal supply watersheds, natural background rates of sediment delivery and transport, etc. have been included in the final Forest Plan, Chapter 4. Specific standards have been strengthened by use of "shall" in place of "will" or "should", where appropriate. Several standards have been changed to provide greater protection or clarification.

Comment

Specific standards for riparian management should be developed and applied for all classes of streams, not just Class I to III. Class IV streams are important and should be afforded protection.

Response

The Forest Plan, Chapter 4, discusses standards for riparian areas for Class I, II, III, and IV streams. Class I, II, and III streams are, by definition (FSM 2526.05, Supplement 51, 6/87), perennial or intermittent streams which support beneficial uses (fisheries, recreation, domestic use, etc.) or streams which directly influence water quality in higher class streams. Class IV streams are intermittent streams which do not support fish populations or other significant beneficial uses. They have a relatively minor effect on higher class streams. Subsequently, several standards directed at maintenance of aquatic habitat are not applicable to Class IV streams. For instance, temperature increases are not normally a concern as such streams are dry during the critical summer temperature period. However, standards which relate to the prevention of soil compaction, soil erosion, sediment delivery, etc., are applicable to Class IV streams and they are included.

Comment

The proposed Forest Plan (Chapter 5, page 18) Monitoring Element 3.040, proposes to monitor watershed condition using an invalidated model which only addresses the watershed's susceptibility to a "catastrophic" event ("rain on snow"). Numerous factors influence watershed stability and response to management. The current model is not adequate for characterizing watershed condition and changes over time.

Response

The described watershed condition model attempts to estimate the hydrologic recovery of roads and harvest areas, and the potential for damaging peak flows related to infrequent, catastrophic "rain on snow" events. The model was revised during the process of modifying and analyzing alternatives for the FEIS. This model, or methodology, now addresses various inherent watershed characteristics such as geology, soils, channel stability, etc. It is expected that this model will continue to undergo modification during the life of the plan, reflecting the collective experience of forest watershed specialists and research findings. The Forest Plan, Chapter 5 has been revised to provide clearer explanation of proposed monitoring.

Comment

The DEIS and Forest Plan do not apply a systematic method for evaluating the cumulative effects of management practices on riparian zone processes for all streams across the forest.

Response

Refer to the preceding response.

Comment

Non-degradation requirements of EPA and Oregon water quality regulations must be adhered to in the Forest Plan. The generalized water quality indexes are inadequate and irrelevant.

Response

Goals and standards in Forest Plan Chapter 4, Forest Management Direction, will be re-written to include direction for compliance with federal and state water quality regulations and the role of Best Management Practices in achieving compliance. Chapter 5, will be re-written to include an expanded discussion of monitoring and evaluation, including the application of the intensive and ongoing monitoring program in the Bull Run watershed.

Comment

All riparian areas for perennial and intermittent streams must be withdrawn from allowable harvest until a single-tree management system is adopted.

Response

Timber harvest activities appropriate for each riparian area will be guided by the site-specific application of the riparian and aquatic habitat standards. These Standards have been changed to strengthen protection of riparian areas, see Forest Plan Chapter 4.

Comment

The DEIS does not adequately discuss the increased probability of flood damage and watershed degradation as a function of timber harvest and road construction within The Dalles Watershed Mangement Unit.

Response

The entire watershed, including upper Dog River, is allocated to Special Emphasis Watershed in the preferred alternative of the FEIS as described in Chapters II and IV. Standards for riparian areas, soils, water quality, and aquatic habitat are discussed in the Forest Plan Chapter 4. This direction is consistent with or offers greater watershed protection than current direction provided by the Dalles Watershed Mangement Plan and Memorandum of Agreement, between the city of The Dalles and the Forest Service.

Comment

Standards in the Forest Plan don't adequately address maintenance or enhancement of water quantity and water quality.

Response

Several goals and standards dealing with maintenance and enhancement of water quality have been re-written and are discussed in Forest Plan Chapter 4. Forest Plan Chapter 2 discusses the prospects for enhancing water quantity.

Comment

There is no apparent standard in the Forest Plan addressing potential cumulative watershed effects (peak flows, landsliding, channel instability, water quality, etc.) of management activities (timber harvest and roads). Only direct on-site activities affecting riparian areas, aquatic habitat, etc. appear to be addressed. Plan should identify the process by which watershed condition or stability will be considered in proposed activities within a watershed.

Response

The National Environmental Policy Act (NEPA) requires that all proposed projects assess the potential for cumulative effects. BMPs recognized and certified by the State of Oregon also require the assessment of cumulative effects for any proposed project. A methodology for assessing watershed sensitivity, based on various physical factors, has been developed to identify and analyze proposed Special Emphasis Watersheds. This methodology or one similar to it may be utilized to assess projects. However, the state of the art for such models and methodologies is constantly changing to reflect knowledge gained through research findings and monitoring. It is inappropriate for the Plan to dictate precisely which method should be used.

Comment

The DEIS, Table III-1 (Pg. III-8) states that the Forest has 71,400 acres of surface water. The LRMP, page 2-9, states 18,000+ acres. Which is the correct figure?

Response

The FEIS figures are correct. The Forest Plan will be corrected.

Comment

DEIS does not adequately address changes in streamflow resulting from timber harvest. Are winter flows increased in duration/intensity and/or are summer flows decreased?

Response

This is discussed in FEIS Chapter III. This Chapter was amended to include a discussion of forest hydrology.

Comment

The DEIS, Chapter III, doesn't adequately discuss practices (and their effectiveness) for mitigating erosion and sedimentation associated with the transportation network.

Response

Mitigations and their effectiveness are discussed in FEIS Chapter IV, under the heading of "Mitigation Measures For Soil Resources".

Comment

There is an apparent conflict in standards for riparian areas and standards for C lands, particularly related to salvage harvest of streamside vegetation (2.b.3 pg.4-62, Forest Plan).

Response

This salvage harvest standard is in the section of Chapter 4 which discusses category C areas. Standard applicable to the management of category B lands occuring withing C lands (such as riparian areas) are discussed on the preceding page of the Forest Plan, and are in accord with general riparian standards.

Comment

There is an apparent conflict between proposed Forest Plan (2-9-C2) "water quality is generally excellent" and the DEIS (III-10) "some serious water quality problems".

Response

Both statements are taken out of context. The intent and accuracy of the statements are clear when read in their complete context.

Comment

Management direction (Forest Plan Chapter 4) makes no reference to complying with or exceeding state water quality standards.

Response

The state water quality standards are now stated, see Forest Plan Chapter 4.

Comment

Forestwide standards do not address the need to protect and maintain minimum existing streamflows.

Response

This has been addressed in the Final Forest Plan. See Forestwide standards for Water, Forest Plan Chapter 4.

Comment

The DEIS and plan do not indicate the total acreage of riparian areas on the forest.

Response

This is stated in FEIS Chapter III, in discussion of riparian areas.

Comment

Water is not treated as a major resource output and should be.

Response

Water was not identified as a public issue during scoping. Water is in fact being treated as a major resource, with extensive discussion in FEIS Chapters III and IV (affected environment and environmental effects) and Forest Plan Chapter 4 (Management Direction, Standards, operational considerations, etc.).

Comment

Watersheds which are at increased risk of flood effects are not clearly identified.

Response

The process for identifying sensitive watersheds and recommendations for special emphasis watershed allocation is described in a process paper (L. Bryant, 1990).

Comment

Forest has not completed a riparian inventory, therefore can't make informed decisions.

Response

The Forest has an extensive record of stream surveys extending back to 1958. Stream surveys, including riparian inventories, are an on-going recurrent program on the Forest. This is discussed in FEIS Chapter II.

Comment

Forest should improve all streams and watersheds not presently in good condition. Add to Forestwide goal.

Response

This is discussed in goals and desired future conditions for one or more alternatives, and specifically addressed in Chapters 4 and 5 of the Forest Plan.

Comment

Forest plan needs site-specific prescriptions and standards identified for general riparian areas and key site riparian areas.

Response

Forest Plan discusses desired future condition and standards applicable to Forestwide direction. Site specific prescriptions which fit the needs of riparian areas are best developed and applied at the project level.

Comment

Forest allows 30% of riparian areas to be harvested. This is too high.

Response

Nowhere does the DEIS/FEIS or Forest Plan propose to harvest 30% of riparian areas. The portions of the forest which emphasize riparian management (A9, B6, etc.) vary by alternative. Goals, desired future conditions, and standards for the preferred alternative are discussed in Forest Plan Chapter 4. These are discussed on a forest-wide basis and for specific management areas.

Comment

What is meant by the term "maximum practicable extent"?

Response

The term "maximum practicable extent" is taken directly from Section 319, of the Water Quality Act of 1987 (PL 100-4) discussing the process for identifying best management practices (BMPs) for the control of non-point source water pollution. Individual States are directed to define this term. The State of Oregon has identified the State Forest Practices BMPs as sufficient to ensure compliance with water quality standards to the maximum practicable extent. Through a memorandum of agreement between the Forest Service and the State of Oregon, Forest Service BMPs are recognized as equalling or exceeding the effectiveness of State BMPs in ensuring compliance with water quality standards.

Comment

Prevention of non-point source pollution needs to be clarified.

Response

Chapter 4 of the Forest Plan has been amended to include specific direction related to Section 319 of the Clean Water Act and the role of Best Management Practices. This direction addresses prevention of non-point source pollution.

Comment

Forest Plan Standards should be amended to clarify that water quality shall be maintained and enhanced, where necessary, to meet other water dependent resource objectives.

Response

Chapter 4 of the Forest Plan has been amended to clarify direction for maintenance and enhancement of water quality.

Comment

Standards should require management activities to assess and minimize risk based on hydrologic recovery/stability model.

Response

The National Environmental Policy Act (NEPA) requires the analysis of effects for all proposed management activities. This analysis is documented in environmental assessments and environmental impact statements. Hydrologic recovery, sensitivity, and stability models and methodologies are routinely used by watershed specialists to assess risk associated with implementation of various alternatives. Since methodologies are constantly being updated, it is not appropriate for the Forest Plan to dictate precisely what model should be used. A watershed sensitivity model was utilized to identify high risk or highly sensitive watersheds for designation as Special Emphasis Watersheds in the FEIS.

Comment

Effects of various alternatives on water yield are not discussed.

Response

Water yield increases associated with management activities are discussed in FEIS Chapter III. Research in the western United States has shown that timber harvesting, especially clearcutting, can increase water yields from small watersheds. However, greatest water yield increases occur during periods of lowest demand (winter storms, spring runoff). While initial on-site increases may be substantial, they are generally too small to be measured in larger watersheds. Differences between alternatives would be negligible. Moreover, in the absence of demand, no efforts to increase yield are anticipated.

Comment

The proposed long term management plan does not provide for control of stock grazing in riparian zones. The destruction of these fragile zones I have observed throughout the west, because previous plans did not anticipate the ravages of overgrazing. We can learn from those mistakes and manage public lands more wisely.

Response

The management standards for riparian zones have been rewritten. See Forest Plan Chapter IV.

Comment

Transportation system standards within and adjacent to key site riparian areas should be broadened to include roads in upland areas. Standards would be strengthened by use of "shall" rather than "should".

Response

These changes have been adopted in standards for A9 key site riparian areas, see Forest Plan Chapter 4.

Comment

Plan needs to be modified to clarify how special emphasis watershed management will differ from other areas.

Response

This is discussed in FEIS Chapter II and Forest Plan Chapter 4.

Comment

Where is a discussion of watershed condition found?

Response

Watershed condition is not discussed directly. It was loosely discussed in the DEIS but deemed to be a nebulous, somewhat meaningless parameter. The process paper for the aquatic habitat stability model uses the term to reflect the hydrologic recovery of an area, expressed as a percentage of area in the zero to 30-year age class in any decade. The process paper describing the methodology for identifying and assessing proposed special emphasis watersheds addresses the inherent watershed sensitivity as a function of soil erosion potential, mass wasting potential, susceptibility to "rain on snow" induced peak flows, and beneficial uses, etc.

Comment

Recommend the final Plan include a specific standard or guideline to maintain minimum stream flows.

Response

This was addressed in the Draft Forest Plan in Standards for Soil and Water in the Forestwide Standards for Special Uses (relating to hydroelectric projects). This is now addressed in Forestwide Standards for Water.

Comment

The plan should make better provision for supply of large woody debris in Class IV stream segments to reduce sediment and turbidity problems downstream.

Response

Appropriate standards have been revised in Forest Plan Chapter 4.

Comment

The plan should provide standards for wastewater systems.

Response

Standards for water are revised in Forest Plan Chapter 4.

Comment

Individual watersheds need to be evaluated and compared to existing sediment and turbidity figures to adequately assess impacts.

Response

Insufficient data exists to compare all watersheds using sediment and turbidity figures. Turbidity and sediment figures can be misleading in the absence of concurrent streamflow information. To the extent possible the Forest has assessed risk as a function of soils, land types, flow regimes, disturbance, beneficial uses, etc. An example is the model used to compare alternatives and the methodology used to identify and assess watersheds proposed for Special Emphasis Watershed designation under various alternatives. Standards and guides are intended to maintain or improve (where necessary) water quality. The mechanism is the implementation of BMPs.

Comment

The goals of monitoring are not adequately described. There seems to be a focus on BMPs rather than water quality. There is little assurance that effective BMPs are being implemented in standards.

Response

Forest Plan Chapter 4 and Chapter 5 have both been revised to better describe the goals of monitoring and role of BMPs in the standards. Chapter 5 specifically describes the goals of monitoring and three levels of monitoring: implementation, effectiveness and validation monitoring.

Comment

The DEIS and Plan virtually ignore the groundwater component of the hydrologic cycle and do not adequately discuss waste disposal, landfills, and applicable standards.

> **Response**
>
> Groundwater is highly unlikely to be effected by management activities except indirectly as a function of on-site microclimate changes and potential changes in quick runoff in mountainous terrain. Existing laws and regulations have not specifically identified solid waste disposal as a suitable use of National Forest lands. However, local situations may require the Forest to assess the feasibility of such uses. In such cases where sewage disposal or landfill projects are proposed, separate project environmental assessments or statements will be prepared. The Forest Plan Chapter 4 includes standards and guides related to waste disposal and water.

Comment

Groundwater protection planning should be included in all chemical handling practices.

> **Response**
>
> Site specific environmental assessments, project work plans, operational guidelines, and contingency plans are prepared for all projects. All activities must conform to EPA and State standards.

Comment

The 30% water yield estimate is particularly suspect. (FEIS, Chapter IV, Geology).

> **Response**
>
> This statement referred to soil mantle water content increases associated with vegetation removal, and the resulting increased risk of landslide occurence. The figure is correct, according to the cited literature. The erroneous use of the term "water yield" has been corrected in the FEIS.

Comment

The Plan should comply with section 319 of the new Clean Water Act.

> **Response**
>
> This is correct and is discussed in Forest Plan Chapters 4 and 5.

Comment

By eliminating the top of a watershed from adequate protection measures, the Forest Service assures degradation of Class III and IV streams.

> **Response**
>
> DEIS Chapter 4 describes several standards applicable to the protection and management of Class III and IV streams.

Comment

Special emphasis watersheds and riparian areas need to be linked to specific standards and guides and monitoring.

Response

Numerous operational guides and standards are presented in Forest Plan Chapter 4 and monitoring is described in Chapter 5. Site specific practices, measures, and monitoring are best developed for each area during site-specific, project level planning.

Comment

How was the range of water quality for the Forest determined?

Response

Monitoring data, professional judgement, stream surveys (over 20 years worth, covering much of the Forest), U.S. Geological Survey data, and cumulative knowledge of streams by the Forest staff of professional watershed specialists.

Comment

The plan should indicate how municipal supply watersheds will be protected.

Response

Several such watersheds have been designated Special Emphasis Watersheds, or other protected status (Bull Run, Columbia Gorge Scenic Area, etc.) Standards for all water and riparian areas are meant to ensure compliance with state water quality standards, see Forest Plan Chapter 4.

Comment

There is no assurance that water quality standards will be met by each alternative.

Response

Best Management Practices (BMPs), discussed previously and in the FEIS Chapter IV, will be implemented for the selected alternative. While it would be possible to meet water quality standards with any of the alternatives, most of the time, each alternative entails a greater or lesser degree of assurance. In other words, there is a varying degree of risk (of water quality degradation) associated with each alternative.

Comment

Recommend that your plans include additional protection for intermittent streams, wetlands, seeps, and springs. Loss of, or damage to, these fragile areas will directly impact larger streams and rivers by lowering water quality, increasing temperatures, altering flow characteristics and increasing turbidity.

Response

Standards in Forest Plan Chapter 4 have been reviewed and revised to afford appropriate protections for these areas. Standards and operational considerations developed by the Columbia River Intertribal Fish Commission have been incorporated into the standards and guidelines in Chapter 4.

Comment

Why is the thin strip of ridge at the head of Tanner and Eagle Creeks designated C1, General Forest. It's ridiculous to have the entire creek drainages preserved only to chew up their headwater ridge.

Response

The Forest Plan now designates this area as DA2, a new designation within the Bull Run Watershed Management Unit. The major feature of this designation is no regulated timber harvest, based on Senate Report 98-465, accompanying HR 1149, the Oregon Wilderness Act of 1984.

Comment

The general discussions on riparian conditions and the use of the Aquatic Stability Index does not provide the reviewer with sufficient information.

Response

The general discussions are appropriate for this level of planning. Some additional analysis has been completed for the final EIS and is included in FEIS Chapter IV.

Comment

The mitigation measures are not specific enough to qualify as the reasoned discussion required by NEPA.

Response

The mitigation measures that we have used on the Mt. Hood are an evolving state of the art. This is one of the most analyzed and critiqued rehabilitation efforts in the country. The types of mitigation that are currently being used on the Mt. Hood are found in FEIS Chapter IV.

Comment

The DEIS should disclose the manner in which mitigation measures and levels of mitigation funding are chosen and applied.

Response

The mitigation measures are chosen by the line officer based on recommendations from the resource professionals assigned to the particular unit. Levels of mitigation funding are chosen by Congress.

Comment

Do the Mt. Hood's predictions on water quality hinge on the watershed improvements? What happens if funding for those projects falls through? What is the level of funding for Fish, Wildlife, Water, and Soils in the proposed budget?

Response

The predictions are based on the amount and kind of protection given to watershed across the Forest in the preferred alternative. The budget proposed for the Fish, Wildlife, and Water, and Soil resource management vary by alternative. The proposed budget for the preferred alternative is based on doing the levels and kinds of work detailed in FEIS Chapter IV. Actual budgets will depend on funding levels determined by Congress. However, the maintenance of water quality is tied to the successful implementation of the standards and guidelines found in Forest Plan Chapter 4.

Comment

The DEIS does not fulfill the requirements of NFMA and CFR Section 219.19 to identify viable populations of and appropriate distribution of anadromous fish, and determine the means to monitor population trends and the effects of habitat changes.

Response

The Forest Plan monitoring program contains the means to accomplish this task, see Forest Plan Chapter 5. The Forest will work with Oregon Dept. of Fish and Wildlife to monitor population viability and to ascertain and correct any habitat based limiting factors.

Comment

The Mt. Hood must discuss how its compliance with the Clean Water Act will be sufficient to maintain existing levels of fish habitat capability and existing fish populations. For those watersheds in which the water quality has declined how have current best management practices failed to protect those values.

Response

We do not rely only on compliance with the Clean Water Act to maintain existing levels of fish habitat capability. We have a fairly extensive monitoring program to assess the condition of our streams and the factors limiting production of anadromous and resident fish. Best Management Practices are dynamic and have changed radically over the past 10 to 20 years. The degraded watershed conditions are a result of decisions and practices carried out 5 to 20 years ago. Adherence to current BMP's, as defined in the Standards and Guidelines found in Chapter 4 of the final Forest Plan, would probably protect and begin to rehabilitate our watersheds, given a reasonable timber harvest level.

Comment

Aquatic habitat stability scores for the Alternatives F, H, and I are much higher than would be expected from the differences in ASQ. Why?

Response

The alternatives cited provide for more resources being dedicated to the fish and water resources than the preferred alternative in the DEIS. The model takes these into account when estimating aquatic stability that might occur given the implementation of those alternatives.

Comment

Data to quantify changes in aquatic habitat condition over time is lacking. To what degree does this lack of information affect the ability to predict habitat effects at the forest plan level and the environmental assessment level? Is there conservatism factored into management activities to reflect the lack of data?

Response

The information that we have on quantifying aquatic habitats is improving rapidly but is several years away from being standard by which we can make decisions. The lack of quantifiable information and models to predict effects substantiates the need for experienced professionals that can predict effects at the Forest and project level. Although generalizations are dangerous when referring to resource recommendations made by individuals with different backgrounds, conservatism is factored into situations according to the level of information we have in a given area and the amount of experience we have with similar situations.

Comment

Have fish habitat rehabilitation efforts had a measureable effect on fish populations?

Response

The Mt. Hood has had an aggressive fish habitat rehabilitation program for the last 5 years. At the same time the Forest has been evolving more protective riparian area management practices. The Forest believes that both of these efforts will lead to measureable increases in the quality and quantity of the fish resources on Forest. We have a monitoring and evaluation program to track fish population levels on the Forest. Results from the last five years have indicated that some of the rehabilitation efforts on Forest have had a measureable effect on fish populations. The results of rehabilitation efforts depends on many factors, some of which are not in the control of the Forest. In addition the intensity of the monitoring program is such that it is difficult to show statistically significance even if it exists. With those qualifiers, yes.

Comment

The text indicates that there are about 250 miles of anadromous stream habitat that could be accessed. This contradicts tables III-4 and III-7 that cite a 524 mile difference between present habitat capability and habitat capability with full enhancement.

Response

The text refers to the amount of habitat that could be accessed assuming a reasonable program that takes into account other management factors and cost effectiveness. The desire to protect resident fish populations would be one of the other factors that would affect the number of miles accessed. The table shows all of the potential anadromous habitat that could be accessed given that as the only criteria for making management decisions. It probably would not prove to be a reasonable program but does show the potential of the program as a benchmark.

Comment

The aquatic habitat condition model has not been validated and the monitoring plan does not include this validation. Is there conservatism factored into the management activities because of this lack of validation?

Response

Validation of the model is listed as an information need in Forest Plan Chapter 2. The model is intended to given broad general differences between alternatives in the Forest Plan. Because it is based on a thorough literature search and extensive on Forest experience by a number of people we have confidence that the factors used in the process would reflect actual effects in implementing the alternatives.

Comment

What is the most limiting factor for fish on the Forest?

Response

The factor that is most limiting fish production on the Mt. Hood National Forest is probably the escapement of adult spawners for anadromous fish and localized harvest for resident fish.

Comment

What happens if the rehabilitation program isn't funded at the planned level?

Response

The management of the Forest is outlined in Desired Future Condition and the Standards and Guidelines. In those entities it is detailed to maintain or enhance the riparian management areas. It is assumed that under the preferred alternative that the implementation of standards and guidelines will maintain the existing conditions. The rehabilitation program is expected to speed the improvement of certain riparian areas. We anticipate that the rehabilitation program will be funded. However, if it is not, we expect to maintain conditions in the riparian zone.

Comment

The text should explain what the experience on structure durability has been on Forest.

Response

That is found in FEIS Chapter IV.

Comment

The standard for fish habitat capability states that it should be maintained. It should be changed to enhanced or maintained.

Response

This standard actually states that the fish habitat capability must be maintained at no less than the existing level. Additional language to allow for rehabilitation, improvement, and/or enhancement has been added, see Forest Plan Chapter 4.

Comment

Habitat capability trend monitoring should be compared to specific goals for each of the drainages on the Forest, either in terms of the SHCI or aquatic habitat condition model. The variability should plus or minus 20%.

Response

This has been done in the FEIS. Trend monitoring will be compared to the current situation for each of the drainages on the Forest.

Comment

The biological condition index should be defined and the relationship to the other models used in the plan should be explained.

Response

This has been done and is found in Forest Plan Chapter 4.

Comment

Plan fails to meet the Federal Clean Water Act (FCWA) and the National Forest Management Act (NFMA) in failing to protect the chemical, biological, and physical integrity of the waters of the Forest. It also fails to adequately protect Indian Fisheries.

Response

The plan and the FEIS does protect the chemical, biological and physical integrity of the waters of the Forest in the preferred alternative. We have stated that we will maintain or improve the aquatic resources of the Forest, have included specific Standards and Guidelines to accomplish that, and have put together a monitoring plan that should be able to tell us whether or not we are accomplishing the desired end results. One of the objectives was to protect Indian and nonIndian fisheries.

Comment

Plan does not address amendments to the Federal Clean Water Act (FCWA) mandating protection of indigenous populations of fish, shellfish and wildlife.

Response

The plan addresses the National Forest Management Act and amendments to the Clean Water Act mandating protection of indigenous populations of fish, shellfish, and wildlife.

Comment

There is too much reliance on indicators species at downstream locations.

Response

The monitoring plan monitors indicator species of fish at downstream locations and macroinvertebrates at upstream and downstream locations to detect any changes occurring within the system.

Comment

Please map and inventory all tributary streams on Forest.

Response

Tributary streams are mapped and many have been inventoried. The region has adopted a new inventory method and the Forest is in the process of inventorying the tributaries.

Comment

There is inadequate provision for Large Woody Debris (LWD) in the upper watershed.

Response

The standards and guidelines have been changed in the Forest Plan to provide for Large Woody Debris (LWD) in class III and IV streams, see Forest Plan Chapter 4.

Comment

The Forest Service needs to recognize its obligation to act as a custodial partner in preserving native fishing rights. The treaty should be recognized as agreements between sovereign peoples.

Response

Recognition of treaty rights has been added to the Forest Plan. See Human Rights Standards in Forest Plan Chapter 4.

Comment

There is no reliable history of mitigation, as an applied practice, that would suggest habitat rehabilitation practices will keep pace with a departure alternative.

Response

The FEIS and Final Forest Plan do not pick a departure alternative.

Comment

There is inadequate protection of important riparian areas.

Response

Changes in the protection of riparian areas have been made in the FEIS and Forest Plan to allow for greater protection. See Standards in Forest Plan Chapter 4.

Comment

Inadequate site specificity as to the effects of logging on riparian and fisheries. Effects should be listed by drainage, not averaged for the Forest.

Response

The discussion of effects is adequate for this level of planning. Some changes have been made to allow display of effects by drainage in the FEIS.

Comment

Standards and Guidelines for riparian and fisheries need to be more specific and more concrete than just suggestions.

Response

The language of the Standards and Guidelines (S&Gs) for riparian and fisheries have been reviewed and changes made where appropriate to provide needed protection. See Forest Plan Chapter 4.

Comment

The Forest should be monitoring smolt production not adult returns.

> **Response**
>
> We monitor smolt habitat capability as the primary measure of production condition. We also cooperate with State and private entities to monitor adult returns to help explain anadromous fish population fluctuations, see Forest Plan Chapter 5.

Comment

Monitoring plan is totally insufficient. Monitoring plan should monitor turbidity and sedimentation.

> **Response**
>
> The monitoring plan for the Forest has been changed to include monitoring of sedimentation, populations trends of sensitive aquatic macroinvertebrates and fish stocks, channel morphology and floodplain vegetation. See Forest Plan Chapter 5.

Comment

The variance that triggers further investigation of population levels should be 20% plus or minus variability from the five year average.

> **Response**
>
> This change has been made, see Forest Plan Chapter 5.

Comment

List production and capability by drainage.

> **Response**
>
> Existing and potential smolt habitat capability has been displayed by drainage in FEIS Chapter III.

Comment

All keysite riparian areas should be included in the preferred alternative.

> **Response**
>
> Additional acres of key site riparian were added to the preferred alternative. In addition, changes were made in the Standards and Guidelines of general riparian to protect riparian areas. See FEIS Chapter II and Forest Plan Chapter 4.

Comment

Protection of tributaries to Big Bottom are inadequate to protect the anadromous fish values in the Big Bottom area. Protection of Salmon River tributaries is also inadequate.

Response

The tributaries to Big Bottom and the Salmon River will be protected like any other tributaries in General Riparian on the Forest. We believe that this level of protection will not only allow for maintaining what we have but will, over time, allow the tributaries to improve.

Comment

Smolt estimates are high. What are the current five year averages of the Forest contribution to Native, commercial and sport fisheries.

Response

The smolt numbers displayed in the DEIS were formulated in meetings with The Oregon Department of Fish and Wildlife District Fish Biologists. We have asked that ODFW supply the figures on current five year averages of adults harvested in native, commercial, and sport fisheries attributed to the Forest. This information had not been received in time for printing of the Final Forest Plan.

Comment

The DEIS does not adequately address the changes in streamflow regimes that have resulted from intensive timber harvest.

Response

The changes in streamflow have been addressed, see FEIS Chapter IV.

Comment

How has the Forest mitigated effects of the transportation network and how effective have those mitigation efforts been?

Response

Mitigation of the effects of the transportation system is difficult without removing the roads. The Forest has done some limited site specific mitigation of the transportation system. These efforts have been successful but they are not easy or inexpensive. In addition, one of the impacts of the Transportation System has been the straightening, channelizing, and narrowing of the stream systems adjacent to the Transportation System. This condition was attained rather slowly over the Forest and has been in place long enough that Forest users have come to regard clean, straight, narrow streams as the "natural" condition. These publics have resisted rehabilitation efforts.

Comment

Where are the 5,000 acres of full protection leave areas from high risk of sedimentation?

Response

The high risk areas are associated with earthflow areas primarily in the Clackamas River drainage, see map in FEIS Chapter III.

Comment

Forest needs to recognize sensitive species, Bull trout, and the discovery of genetically unique strain of rainbow trout from the White River system.

Response

This has been done in FEIS Chapter III.

Comment

Oregon Department of Fish and Wildlife (ODFW) is not aware of any golden trout on the Forest at the present time.

Response

We are investigating reports of Golden trout in the Bull of the Woods Wilderness area lakes. In the meantime it has been removed from the list of salmonids found on the Forest.

Comment

No native spring Chinook remain in the Sandy River system.

Response

We have listed that stock as a stock of concern and will cooperate with ODFW in monitoring adult and smolt production.

Comment

What would the values of anadromous and resident fisheries on Forest be if the Forest streams had optimum production?

Response

That information is presented in a table in FEIS Chapter III.

Comment

Cattle grazing can and does have a significant impact on fish habitat, and should be recognized.

Response

The Forest recognizes this in FEIS Chapter IV.

Comment

It is doubtful under the preferred alternative that the Forest can protect water quality and riparian dependent resources. Does this mean that the Forest will attempt to maintain the riparian resources at the present degraded condition?

Response

These resources will generally be maintained or improved relative to current conditions. The EIS, Chapter III, clearly discusses the reasons why certain streams and riparian areas are in a degraded condition. Chapter IV discusses effects of alternative implementation, including proposed watershed rehabilitations measures associated with each alternative. Management direction in the Forest Plan Chapter 4, clearly states that the goal is to maintain, enhance, or improve water quality, riparian conditions, aquatic habitat, etc. Standards address this. Restoration and rehabilitation measures are proposed, and monitoring is designed to ensure this.

Although our analysis indicates that, generally speaking, maintenance or improvement of water quality and fish habitat will occur, it also acknowledges the potential for local deviations. All management activities, particularly timber management, inherently have an element of risk involved. The degree of risk is dependent on site specific characteristics and the management activities occurring. Because we cannot control site characteristics, we developed a variety of standards and guidelines and allocations to control management activities and thus the relative degree of risk.

To track the results of management activities on fish and water resources, a Monitoring plan has been developed. It will assess the activities associated with the implementation of projects and the effects relative to Standards and Guidelines and modelling assumptions employed in the Final EIS and Forest Plan. Where monitoring indicates that management objectives for fish and water resources have not been met, provisions are included to: 1) provide for on-site rehabilitation projects necessary to hasten recovery and 2) allow for changes (amendments) in the Plan necessary to better meet these objectives.

Comment

Salvage S&Gs call for avoidance of debris accumulations. This seems contrary to maintaining habitat.

Response

Salvage Standards and Guidelines have been changed to address this, see Forest Plan Chapter 4.

Comment

Cumulative effects must be stated for on Forest and off Forest.

Response

Cumulative effects in the Forest Plan and in project EA's consider effects on and off Forest.

Comment

Mitigation seldom restores a habitat to its original condition or production potential.

Response

We agree that mitigation is not a fix all and we much preter to implement everything we do without adverse effects. We know that situations will continue to occur where we will need to mitigate the adverse effects of management activities. We will continue to investigate ways to most effectively mitigate those adverse effects.

Comment

The Forest should cite references that indicate placing structures in streams is going to increase fish production.

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Response

When placing structures in streams is done to compensate for a known or suspected limiting factor the results can be dramatic in restoring the physical structure and channel morphology of the stream. References have been cited in FEIS Chapter IV.

Comment

Oregon Department of Fish and Wildlife is concerned about the amount of logging in the Upper Collawash River basin. What will be done to ensure protection of aquatic habitat.

Response

The upper Collawash is an inherently sensitive area for management activities and the land allocations in the Final Forest Plan reflect that sensitivity. The upper Collawash is either in A-2: Wilderness; or in B-6: Special Emphasis Watersheds. We believe that these allocations will protect the aquatic habitat in the upper Collawash River drainage.

Comment

Managing for moderate levels of fish and wildlife is unacceptable. The Forest needs to take a strong stand on the protection and enhancement of riparian ecosystems.

Response

The Forest has taken a strong stand on the protection and enhancement of riparian ecosystems in the Final Forest Plan. The preferred alternative and the Desired Future Condition refers to restoring and maintaining riparian areas to a "natural" condition given the level of public use that the Mt. Hood National Forest experiences.

Comment

The reference to rehabilitation suggests that the proposed Standards and Guides are not sufficient to protect aquatic resources.

Response

Rehabilitation refers to work that is done to speed the natural recovery process after a natural or management caused disturbance. We have anticipated that both natural and management caused disturbances will continue to occur even with the best S&Gs and the most rigorously applied implementation. We believe that the S&Gs are sufficient to protect riparian areas and will work to make sure that they are implemented successfully.

Comment

The Forest has not identified Management Indicator Species fish.

Response

All of the salmonid species are considered to be Management Indicator Species, see FEIS Chapters I and III.

Comment

There is inadequate protection of wetlands and meadows.

Response

The most important wetlands and meadows have been included in the Key Site Riparian allocation in the preferred alternative. Other wetlands and meadows are allocated to General Riparian. The condition of wetlands and meadows will be monitored under implementation of the Forest Plan and adjustments can be made if these areas are not getting adequate protection.

Comment

The Forest has failed to address how the increasing probability of flood damage affects fish, municipal and other beneficial uses.

Response

The Forest has addressed those effects in FEIS Chapter IV.

Comment

Downward trending watershed or riparian areas are not identified.

Response

Downward trending watersheds and riparian areas have been identified in the FEIS.

Comment

The standard for quality of Riparian Mangement Areas (RMAs) should read "shall" instead of "should".

Response

The language used in the Standards and Guidelines was reviewed between Draft and Final and was strengthened where it was appropriate, see Forest Plan Chapter 4.

Comment

Comprehensive riparian and transitional uplands management could better be achieved by increasing the amount of acreage in Key Site or by strengthening standards for general riparian.

Response

The S&Gs for riparian areas was reviewed and clarified in Forest Plan Chapter 4.

Comment

The budget and schedule for developing site specific management plans for Key Site Riparian areas (KSRs) should be included in the FEIS.

Response

These have been included.

Comment

The standards for Special Emphasis Watersheds (SEW's) are vague and the differences between them and the Forest in general are difficult to understand.

Response

The Standards and Guidelines for Special Emphasis Watersheds were clarified, see Forest Plan Chapter 4.

Comment

The discussion on riparian types (pages B-91 and 92) would be better served by a table that shows types, conditions, and rotations.

Response

The different riparian types are explained in greater detail in the final Forest Plan. Rotations are going to vary not only by type but by site and basin character and a table would not provide much more detail or explanation than the text.

Comment

The S&Gs do not distinguish between east and west side conditions.

Response

There is a distinction in the S&Gs between east and west side conditions, see Forest Plan Chapter 4.

Ecology

Comment

The Mt. Hood National Forest is directed to inventory and evaluate potential sites for all unfilled Research Natural Area cells. Specific areas mentioned as possibilities include additions to the Bagby RNA, Larch and Eagle Roadless Areas, Sensitive plant habitats, and areas with unique or outstanding geologic features.

Response

The Resource Summary section identifies such an inventory and evaluation as an activity that will take place prior to the next Forest Plan. The Oregon Natural Heritage Plan will provide the major guidelines for determining which ecosystems (cells) need to have Research Natural Areas established within them. Such an effort will include evaluation of expanding the boundaries of existing RNAs. In addition, the project will include inventory and evaluation of other unique, fragile or outstanding areas that may be suitable for protection in some other Management Area designation (i.e., Special Interest Area).

Comment

Special Interest Areas (or some other protective designation) should be established in Sensitive Plant sites, fragile habitats (such as bogs, wet meadows, talus slopes, cliffs, marshes, seeps and springs, etc.)., and botanically significant areas such as the Columbia Gorge and lower east slope of the Cascades.

Response

The Resource Summary section indicates the Mt. Hood National Forest will undertake to identify and evaluate these kinds of areas, along with sites considered "special" for other reasons (such as recreation), for designation either as Special Interest Areas or Special Places. See Forest Plan Chapter 4.

Comment

The direct or cumulative effects of the proposed Forest Plan on RNA resources are not adequately evaluated in Chapter IV of the DEIS.

Response

The revised section of Chapter IV more fully discusses the effects of the Forest Plan alternatives on potential sites for RNA designation.

Comment

Monitoring for ecological conditions within Research Natural Areas is essential, and was not addressed in the DEIS.

Response

The Resource Summaries section identifies a project wherein the Mt. Hood National Forest will prepare establishment reports and management plans for Research Natural Areas before the next Forest Plan. An integral part of such a management plan will be both an assessment of baseline ecological conditions, and a scheme for monitoring changes over time.

Comment

Plant collecting in RNAs should be regulated. Only scientifically-based collection of plants should be allowed.

Response

The Forest Service Manual (4063.33) requires that researchers desiring to make collections of RNA flora or fauna obtain a permit, agree to carefully control collection of endangered, threatened or rare plants, and deposit voucher specimens in the appropriate herbarium.

Comment

The EIS should thoroughly discuss impacts of logging, roading, livestock grazing, mining and off-road vehicles on native plant communities (direct and indirect).

Response

The purpose of the Forest Plan and accompanying EIS is to present and assess the impacts of a general land allocation scheme, not the effects of individual activities on particular sites. To try to do a detailed analysis of the effects mentioned in the comment would be an impossible task, because at the Forest Plan (land allocation) level, proposals are not yet being made to carry out specific projects. The impacts described in the comment will be discussed in EISs or Environmental Assessments (EAs) for individual project areas.

Response to Public Comment

Comment

There is very minimal discussion of native plants and a noticeable absence of management direction shown for them. Provision must be made for inventorying and monitoring special habitat sites and sensitive species populations.

> **Response**
>
> There has been additional information added to the documents. See FEIS Chapter III and Forest Plan Chapter 4 (Forestwide Standards for Threatened, Endangered and Sensitive Plants and Animals).

Comment

There is a need to complete a Forest inventory of plant communities and insure protection of undisturbed representative examples. This should be listed as an "Information Need".

> **Response**
>
> Classification, inventory and mapping of native plant communities has been the primary assignment of the Area 7 (Mt. Hood and Gifford Pinchot NFs) Ecology Program since 1978. Currently, classification is complete for forested plant communities, and is in progress for riparian and alpine areas. Maps of community groupings are expected to be completed sometime in 1992 and will become a layer in the Geographic Information System (GIS).

Comment

Botanical Special Interest Areas and other Special Interest Areas with unique plants or plant communities should be protected from livestock use and plant collection. They should be withdrawn from mineral entry and remain undeveloped, except for minimal interpretive signing.

> **Response**
>
> Revised Forestwide Standards for Special Interest Areas provide protection for unique botanical resources, as stated above. See Forest Plan Chapter 4.

Comment

The EIS should discuss the effects of and present a plan to regulate and monitor commercial collection of plant materials.

> **Response**
>
> The revised Forestwide Standards for special forest products allow for limitations to be placed on their collection (the Standards do not distinguish between commercial and noncommercial collection) to prevent over-utilization. The specifics of monitoring and invoking limitations for such products will vary considerably depending on the type, location and amount of use received, and therefore decisions to regulate will be made on a case-by-case basis. See Standards in Forest Plan Chapter 4.

Comment

The EIS should discuss guidelines and a monitoring strategy for the affects of herbicide use on non-target species.

Response

The revised Forestwide Standards for biological diversity prohibit the permanent removal of any species native to a particular ecosystem through vegetation management activities (herbicides or other methods). See Forest Plan Chapter 4. Standards and guidelines for evaluating and monitoring vegetation management projects (all of which require a written site analysis) are found in "A Guide to Conducting Vegetation Management Projects in the Pacific Northwest Region" (USDA Forest Service, Pacific Northwest Region, Forest Pest Management, 1990). Included in the guide is a requirement to discuss the effects of alternative treatments on a variety of resources, including plant populations.

Comment

The Final Plan should specify that any project, program or activity affecting Sensitive plant species should receive the advice and review of the Oregon Natural Heritage Data Base Program, so that native plant management will be afforded the same interagency cooperation as that afforded to fish and wildlife.

Response

The Forestwide Standards have been revised to allow for coordination to take place with the Oregon Natural Heritage Program on Species Management Guides and Recovery Plans for Threatened, Endangered and Sensitive Plants and Animals. See Forest Plan Chapter 4. Until such plans are in place, listed species are being protected.

Comment

Any revegetation effort (erosion control, range improvement, etc.), should utilize only plants native to the Forest.

Response

Revised Forestwide Standards encourage the use of native species in revegetation activities, but allow the use of non-natives where native species might not be as effective in preventing resource damage, i.e., the use of quick-growing annual grasses in rehabilitation of wildfire sites to prevent erosion. See Forest Plan Chapter 4. Use of non-native species will be limited to those that have been shown not to be problematic to native species, and that quickly disappear from the plant community.

Comment

The Plan should address the effects of the accelerated harvest of Pacific Yew for medicinal research, and should propose a program for regulation and monitoring of this harvest.

Response

The revised Forestwide Standards for Special Forest Products allow for limiting the collection of such products to prevent over-utilization of the resource. See Forest Plan Chapter 4. Pacific Yew is considered to be a product that may be sold only if the resources can be managed with acceptable environmental effects. Such a determination will be made on a case-by-case basis.

Comment

The analysis of impacts of proposed grazing levels on native plant communities is highly inadequate.

Response

Standards and Guidelines have been updated to address impacts of proposed grazing levels on native plant communities, see Forest Plan Chapter 4.

Comment

The Plan needs a "worst case analysis" of the effects of management activities on native plant community diversity, range and distribution, structure and composition of old growth, the effects of herbicides of native plants, and the risk of introduction of noxious weeds through grazing and off-road vehicle use.

Response

Effective May 27, 1986, the council on Environmental Quality revised it's regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA). The requirement to prepare a "worst case analysis" has been rescinded.

Comment

Claims that the Proposed Alternative promotes diversity through management are misleading and misinformed. We should be promoting maintenance of all existing native species on a Regional scale, not localized habitat heterogeneity.

Response

The sections of the Plan and DEIS that relate to native plant diversity have been revised extensively. Statements in the Draft Plan about diversity apply mainly to compositional diversity at a relatively small (stand or group of stands) scale. In the Final Plan and FEIS we have attempted to include elements of both structural and compositional diversity, and to speak to landscapes as well as stands.

Comment

Plan fails to adequately address biodiversity

Response

A new section on diversity of plant and animal species has been added to FEIS Chapter III. Biodiversity is considered in the way the alternatives varied, see FEIS Chapter IV. Also, the Final Plan now has Forestwide standards for Forest Diversity, see Forest Plan Chapter 4.

Comment

The importance of mycorrhizal associations between plants and fungi has not been addressed in the DEIS.

Response

The importance of underground ecosystems is addressed in the Standards for Soils, see Forest Plan Chapter 4.

Timber

General Timber

Comment

Timberland suitability was determined through reliance on inadequate information, i.e., soil mapping and analysis lost 50,000 acres compared to the Timber Management Plan. The Mt. Hood ignores management practices that reduce unsuitable acres, i.e., helicopter logging on fragile, steep slopes. The Mt. Hood ignores the ability of unsuitable lands to satisfy other resource objectives. The Mt. Hood did not field verify unsuitable land mapping, therefore it should remain suitable. Suitability is flawed. Draft Forest Plan shows major drop in forest land base; acres are double counted.

Response

Suitability was redone in late 1988 using aerial photos and ground truthing. Mapping errors from the old analysis were corrected. Screen 3 of the suitability analysis process was again reviewed by districts in late 1988, using criteria that helicopter logging is permitted. The new mapping reflects that knowledge. The Mt. Hood does consider the ability of unsuitable timberland to satisfy other resource objectives. Field verification was used in the re-mapping of unsuitable lands. An explanation of what falls out in each screen is displayed simply in the Forest Plan. See FEIS Appendix B.

Comment

The DEIS falsely reports that only 30% of the entire tentative suitable timberland base is managed for extended rotation. The value is actually 40%.

Response

This is correctly represented in the FEIS.

Comment

A reasonable alternative is to shorten the rotation (for the preferred alternative) on "B" lands to 125 years.

Response

Rotation lengths are determined based on growth, desired future conditions, and standards. They vary from place to place. See FEIS Appendix B.

Comment

Modify Alternative I. A map and four pages of allocation changes are submitted.

Response

An alternative is added similar to alternative I, but modified accordingly. See FEIS Chapter II.

Comment

The DEIS fails to consider or evaluate the impact of the Columbia River Gorge National Scenic Area Act (CRGNSA) on the Forest Plan and on Allowable Sale Quantity (ASQ). Timber harvest should be allowed.

Response

The CRGNSA is allocated to a separate management area in the FEIS, since it is now a separate administrative unit in the Forest Service. Effects of this on acres harvested and ASQ are displayed in the FEIS. Some timber harvest is allowed, but is not regulated or chargeable towards an ASQ.

Comment

The forest plan fails to provide a continuous supply of timber and maintain community stability. Departure is illegal. An internal memo by Jim Perry dated 14 August 1985 is presented. The Forest Plan lacks strict adherence to the sustained yield concept.

Response

Departure alternatives were analyzed to see if impacts on community stability can be minimized in the downward trend of timber availability. Departure alternatives return to sustained yield in future years. The Office of General Counsel opinion is that departure is legal. See Chapter II, FEIS. Departure will again be evaluated in the FEIS, see FEIS Appendix B.

Comment

Historic sale levels are not portrayed. Nonchargeable level is too high.

Response

ASQ and potential yield sell levels and actual harvest levels are portrayed in the final FEIS, see FEIS Chapters II and IV.

Comment

The job/timber relation is flawed. Jobs/MBF ratio was based on 1977 data. It should be more current. Jobs information should account for increase in small woodlot "job" when National Forest timber supply drops.

Response

1983 figures are used in the FEIS, see Chapters III and IV. FEIS Appendix B has been changed.

Comment

The Forest Service estimation of a 25% reduction in ASQ is inaccurate and misleading. Decrease should be from recent harvest average of 638.9 mmbf/yr The Forest Service misrepresents the ASQ in the preferred alternative. The DEIS says the ASQ contains 13 mmbf of salvage timber. Including salvage timber in the ASQ contradicts the direction from the Chief. The Forest Service demonstrates they do not understand the definition of the ASQ by stating "Such volume not included in the FORPLAN yield tables may substitute for chargeable volume or be added to it." This statement directly contradicts Washington Office direction.

Response

A new period is used in the FEIS, based on additional input. The FEIS uses a revised process. All new chargeable volume is in the FORPLAN calculations.

Comment

The Mt. Hood artificially constrains the supply of timber because a greater amount can be offered without exceeding the long term sustained yield of the forest.

Response

Departure is discussed and considered in the FEIS, see Chapter II. In an old-growth surplus situation, as is the case on the Mt. Hood, ASQ is directly affected by long term sustained yield, which is dictated by the managed yield volume in the future. New managed yield tables maximize volume as much as possible.

Comment

The forest plan fails to adequately protect the forest from insects and diseases and to maintain the productivity of the land. Reduce forest pest problems by eliminating unnatural components, i.e., the true firs from east side stands.

Response

This was more thoroughly handled in the Final Standards and Guidelines, which propose using fire and regeneration harvest to seral species such as pine. See Forest Plan Chapter 4 (Standards for Timber).

Comment

Please establish tighter controls on pesticides, herbicides, and fertilizer application. Provide more warning time for downstream residents.

Response

All applications of chemical must pass through the environmental assessment process with opportunity for comment from the public about environmental impacts. See Standards in Forest Plan Chapter 4.

Comment

I could not find any mention of pest management information needs in Forest Plan Chapter 2, Information Needs Section. Given the several hundred thousand acres of western spruce budworm scheduled for treatment with B.T. this year it seems to me there should be some mention of a longer term strategy for managing pests on the forest. Why not include a statement like "Develop methods for integrating pest management with other forest management practices for prevention or reduction of timber losses caused by insects and diseases."?

Response

The needs of Integrated pest management is discussed in the final plan and FEIS. The above recommendation is now incorporated into Forest Plan Chapter 2 (Information Needs Section) and also in Forest Plan Chapter 4 (Forest-Wide Standards for Timber).

Comment

The Forest should compare predicted managed stand yields with actual yields.

Response

We concur. Refer to Monitoring and Evaluation section of Forest Plan Chapter 5.

Comment

Off-site plantations will under perform predicted growth.

Response

This may be true, but with cultural activities scheduled for these stands, such as precommercial and commercial thinning, the growth performance will be monitored according to Monitoring Plans.

Comment

The forest made no reduction in cut because of soil compaction from past tractor logging and slash piling, despite evidence this happens. Would it be possible to direct the forest to do this?

Response

Forestwide standards allow a minimal amount of soil compaction to occur on a project basis, and studies have shown that by following these standards, effects on tree growth on a stand basis are negligible.

Comment

Old growth is not defined nor correctly inventoried. Use PNW-447. The Mt. Hood National Forest is not sure how much old growth or other forest remains. The forest is using an outdated 1971 Forest Inventory. The 200-year-old old growth definition is inadequate.

Response

The DEIS used the Regional Guide definition. The FEIS uses the PNW-447 definition and the Audubon/Wilderness Society mapping effort in the FEIS. We are changing the definition and using Jerry Franklin's definition of old growth published in PNW-447. The new 1986 timber inventory photo mapping is used as a base to apply the definitions to.

Comment

There is no provision in the Forest Plan to regenerate or replace old growth stands with future old growth stands.

Response

This is not true. No harvest or delayed harvest is planned for a number of young stands. These will eventually grow into old growth, with rotations of 250 to 330 years.

Comment

Management requirements analysis does not follow Department direction. Management requirements were adopted without public participation and without interdisciplinary analysis. No rationale is given for their selection. A range of management requirements is not explored. Management requirements violate the Multiple Use Sustained Yield Act by preventing high timber yield.

Response

This analysis was changed from the DEIS. It now follows the Chief's direction. Management requirements are from the regulations (36 CFR 219.27). They were selected and adopted through the agency rule-making process. Alternative management requirements are not required since they are adopted through the agency rule-making process. Alternative means of meeting management requirements are explored. The Multiple Use Sustained Yield Act does not call for high timber yield. It does call for sustained yield of all renewable resources, including wildlife. The National Forest Management Act regulations call for identifying a minimum sustainable level. Refer to FEIS Chapter II and Appendix F.

Comment

Alternatives violate the Multiple Use Act and the National Forest Management Act because logging causes soil compaction and this impairs the productivity of the land. Logging also degrades habitat.

Response

The impairment is not meant to be acre by acre but rather by the planning area. Office of General Council (OGC) reviewed our DEIS prior to release for legality and the above mentioned Acts are followed. Forestwide Soil standards address compaction and productivity. See Forest Plan Chapter 4.

Comment

ASQ calculated in board feet violates Multiple Use Sustained Yield (MUSY) injunction to sustain yields.

Response

ASQ is calculated in cubic feet and converted. The method is discussed in FEIS Appendix B.

Comment

The following comments expressed a concern that the Forest Plan violates the Multiple-Use Sustained Yield Act.

- Studies of the Silver fire area in the Siskiyou this last year clearly and convincingly demonstrated the near total annihilation of young tree plantations; this seriously undermines all the previously employed cost/sustained yield calculations. You cannot preclude fire, and your regrowth criteria do not factor periodic 100% destruction.
- Sustained yield calculations assume no climate change or change in insects or pollution. These changes are likely in the future and cutting which appears sustainable now will be seen as overcutting 10 or 20 years from now.
- If the Forest Service promises sales of a specific quantity of board feet every year, more acres will have to be harvested to obtain the same quantity of board feet. This issue was not addressed in the DEIS, despite the fact that the change in the ratio will result in 20% heavier cutting to maintain sale quantities.

Response

It is correct to say that we have not modelled any episodes of 100% destruction of any part of the land base. Monitoring of this in the next 10 years will change growth assumptions in the next Plan. We also have not modelled climate change effects, insect epidemics and pollution effects. This can be adjusted, if need be, in the next planning cycle in 10 years. Finally, yields and ASQ are calculated in cubic feet, not board feet, so heavier acre cutting will not occur in the future as a result of a currently used board foot/cubic foot ratio.

Vegetative Inventory and Yield Tables

Comment

The planning team engaged in arbitrary and undisclosed decision making by failing to use FORPLAN for its intended purposes of land allocation and harvest scheduling. Increasing the amount of planting and thinning but not re-entering these new numbers into the model significantly lowers ASQ.

Response

The FEIS FORPLAN model incorporates acres that must be planted or thinned due to past decisions (the pipeline effect during the first decade). These are forced into the FORPLAN solution and the added volume accounted for. See FEIS Appendix B.

Comment

The Mt. Hood's Timber Inventory completed in 1971 is inadequate. The Forest did not use statistically sound method of estimating standing timber volume.

Response

The latest inventory, completed in 1986, is used in the FEIS. See FEIS Chapter III and Appendix B.

Comment

The TRI system is not an acceptable substitute for the Timber Inventory. The Mt. Hood inventory is not represented in the FORPLAN model. The Mt. Hood omits volume on 40,000 acres of buy-back sales.

Response

Stratification of the land base used the new digitized timber inventory photo mapping. In addition to using the latest inventory, sales sold and logged through 1989 were accurately reflected in the land base mapping. See FEIS Appendix B.

Comment

The empirical and managed timber yield tables are flawed and do not represent the productive capacity of the forest. The cubic foot to board foot conversions (board foot/cubic foot ratio) for the Mt. Hood National Forest are too low. Empirical data indicate that for at least the first decade the conversion value should be 6.00 and not 5.07 as stated in the DEIS. Empirical yield tables for existing stands older than 100 years were assigned a lower site index to adjust for stocking levels. This process severely underestimates the productive potential of all stands currently younger than 100 years and all future regeneration stands.

Response

New yield tables have been developed. A new foot/cubic foot ratio is calculated based on diameter of average trees harvested, using standard methods of calculation. Beginning volumes are corrected in the new empirical yield tables. Managed and unmanaged stands younger than 100 years have been separated and yields, ages, and acres have been developed from the inventory plots. Site indices are corrected in the new managed yield tables. Site index now comes from the same timber inventory plots as the empirical yields, so site will be the same as existing site. See FEIS Appendix B.

Comment

The long term sustained yield capacity is incorrect....it should reflect Culmination of Mean Annual Increment (CMAI), and is 5-10% underestimated.

Response

95% CMAI is the commonly accepted measure of "generally reached maturity". All future stands managed intensively for timber are harvested between 95% CMAI and CMAI. Extended rotations may occur beyond this limit for other resource objectives ("B" lands). The highest CMAI was chosen for the managed yield tables. See FEIS Appendix B.

Comment

The acre totals in the Mt. Hood National Forest documentation do not match with the acre totals in the FORPLAN solution for the preferred alternative. There are 384 less acres in the FORPLAN solution. In addition, there is a difference of 27,021 less acres in the total number of acres listed as tentatively suitable for timber production in the DEIS and the total number of acres entered in FORPLAN as tentatively suitable. There were 43,163 acres in the younger than 100 year category assigned to the 250 year rotation. Those acres will never be harvested and are, in effect, a permanent reduction in the timberland base. The effective timberland base in the preferred alternative is not 513,515. Reducing the timberland inventory for those acres that will never be harvested, the total timberland base falls to 438,602 acres that will be managed for timber production. The remaining acres are hidden in the timberland base but never harvested. There is a 50M to 106M acre difference in commercial forest land between DEIS and Timber Management Plan the Forest cannot explain.

Response

Acres are correctly entered into FORPLAN by relying on recently completed Timber Inventory mapping. Because of the 150 year planning horizon in FORPLAN, land allocation decisions drive the B land rotation acres. (See FEIS Appendix B). Total acres of suitable timber land are displayed regardless of when they are harvested. The disparity is addressed in the January, 1989 suitability study. Refer to FEIS Chapter II.

Comment

Stands less than 100 years of age did not receive empirical yield tables. These stands yield per acre were estimated with the DP-DFSIM but the site indices were reduced apparently to account for stocking level. Site reductions to account for stocking level problems is an erroneous assumption. The only way to determine which site to use was for the Forest to purposefully perform iterations with the yield model until the predetermined answer was found. All managed yield tables have been adjusted downward in site to reflect (presumably) stocking level differences. Adjustment of site index downward to reflect stocking is misleading and incorrect scientific forestry practice.

Response

Site index was not reduced for stocking levels. Regardless, new site indices were calculated from empirical plot data from the latest timber inventory (1986). See FEIS Appendix B.

Comment

DFSIM is based on plantation performance for forty years or less. This is not long enough to validate gains assumed for fertilization, genetics, etc.

Response

Empirical plot data used to develop DFSIM allows the model to accurately predict yields up to 100 years of age; after that, a warning is displayed. Fertilization and genetic gains assumed are conservative based on plot data in Region 6, and monitoring of our activities will validate the growth assumptions we used.

Comment

Yield fall down is not high enough. It should be 23%.

Response

Yield adjustments have been derived from actual field studies. The managed yield table adjustment of minus 10% was decided on based on local Mt. Hood Forest studies that focused on yield falldown due to natural openings in the stand. See process papers for yield falldown dated 1975, 1982 and 1984.

Comment

The computer estimated growth rates for existing stands are underestimated as compared to the measured inventory plots. Forest did not try to correlate the two estimates.

Response

Growth rate equations in the new timber inventory come from the inventory plots and are supplied by the Regional Office. Extensive analysis was done to compare growth rates from the inventory with other local empirical data. (See J. Reis, 1990 paper).

Comment

Forest uses an improper definition of ASQ by including salvage volume.

Response

Our definition of ASQ fits Regional direction. See Glossary for definition.

Comment

The Forest should discuss and justify the incorporation of a 5% "basal area cap" on regression equation estimated for empirical yields.

Response

New basal area caps and rationale for their use are in the FEIS. See FEIS Appendix B, and process paper from K. Fagerberg.

Comment

The Mt. Hood should consider using a set of bdft/cuft ratios to represent volumes, not just one ration as in the DEIS. Documentation of harvest tree sizes as well as how cuft/bdft conversions were developed should be provided.

Response

This is done in the FEIS. New board foot/cubic foot ratios are developed by diameter classes and applied to the cubic foot yield in the first decade. Refer to process paper entitled "Yield Tables - Mt. Hood N.F." (1990).

Comment

Please revise your data - I believe you will find many errors in your forest inventory and yield tables. The yield tables giving projections for growth are too conservative. The timber inventory results should be analyzed, and updated growth & yield information should be incorporated. The existing inventory is under-estimating what the Mt. Hood National Forest can produce under intensive management because it assumes that all fully stocked acres of timber 110 years in age and older carry the same volume per acre. You have based your projections and averages on skewed and erroneous data. Saying that the preferred alternative will keep timber harvest at 94% of the 1977-1986 average harvest is skewing the baseline unrealistically low. This time period included the absolutely worst five years that the timber industry has ever been through.

Response

The most recent timber inventory data (completed in 1986) is used in the FEIS. Growth and yields have been re-evaluated based on this inventory and are discussed in FEIS Chapter III and Appendix B. Managed yield tables produce the highest amount of volume possible, given the prescription.

Comment

An area in which the Preferred Alternative appears to be flawed is in the areas of growth and yield. I would like to state that the FORPLAN model is not accurately predicting what the Mt. Hood National Forest can produce under intensive management. This flaw with regard to growth and yield concerns the assumption in the DFSIM model that managed stands will not out-produce unmanaged stands. I would ask that the data used in the growth and yield projections be reviewed and corrected when a decision is made on the Final Mt. Hood Forest Plan.

Response

The yield tables have been revised and an updated timber inventory based on 1986 field data has been utilized in the FEIS.

Comment

I requested the timber volumes present in the viewsheds and received the following; the four viewsheds represented a total of 1.82 billion board feet on 86,194 acres. These acres are almost all old growth Douglas-fir stands. The new sawtimber per acre comes out to 21 MBF/acre using these figures. I have been up and down this area countless times and I am very sure that the volume is at least double that. Something is very wrong here. I suggest this skews the inventory of the whole forest substantially.

Response

Higher volumes per acre are obtained using the new Forest Vegetative Inventory, more than the above figure in viewsheds. Acres designated as Scenic Viewsheds has also changed in the FEIS.

Comment

I question whether growth rates due to tree improvement are correct.

Response

The 10% gain in yield was used in the managed yield tables only when planting was part of the prescription. This 10% gain is based on genetics research where seed comes from phenotypically selected trees and results from evaluation plantations, but not seed orchards. This is the stage the Mt. Hood is currently in with Tree Improvement. When seed is obtained from our seed orchards, we expect to get a greater than 10% gain, based on research. The 10% gain is rather conservative. See Mt. Hood Yield Tables document.

FORPLAN Timber Modeling

Comment

Thining is modeled in FORPLAN as though it creates an opening. This is not accurate. Empirical yields for timber stands over 100 years were incorrectly entered into FORPLAN and as a result, the actual timber inventory was underestimated at least 5 billion board feet.

Response

Thinning does create "an opening" in regard to wildlife habitat. For a more complete explanation refer to FEIS Appendix B. New yield tables were made and the yields are correctly entered into FORPLAN for the FEIS. A new model was built. See FEIS Appendix B, and Yield Table documentation.

Comment

There is no rationale given for the selection of indicator species nor for dispersion coefficients.

Response

According to the regulations, criteria (found in FEIS Appendix F (MR's) and FEIS Chapter III) are appropriate for the selection of indicator species. The rationale for dispersion coefficients is different in the FEIS, and explained in FEIS Appendix B.

Comment

There was an across-the-board reduction of 4% for the minimum level prescription for all analysis areas that were designated suitable for timber production. There was no substantiation as to why an exact 4% was utilized in the documentation.

Response

These assumptions were changed from the draft documents. The basis for the new set of assumptions are given. Refer to FEIS Appendix B.

Comment

Harvest scheduling constraints are incorrect. Forest did not evaluate the cost of constraints.

Response

Harvest scheduling constraints have been changed in the final FORPLAN model to more accurately reflect hydrologic balance constraints, forage/cover ratio objectives, and timber dispersion constraints to level out the scheduling of harvest acreage. See FEIS Appendix B.

Comment

Mt. Hood FORPLAN relies on five prescription choices. In contrast, the Umpqua uses 53 prescription choices. Has the Mt. Hood reduced the ability of the forest to formulate more creative alternatives because of the low number of prescription choices?

Response

The forest started with considerably more than five, but ended up using the best of the best. The Final FORPLAN model has more prescriptions than the Draft model. See FEIS Appendix B.

Comment

The standard for foreground partial retention in land allocation B2 requires a 200 year timber rotation. How is this modeled in FORPLAN when only 125 and 250 year rotations are available?

Response

The standards for B2 are correctly modeled in the new FORPLAN model.

Comment

The Forest needs to re-evaluate the 32% harvest dispersion constraint.

Response

This has been done, and the new harvest dispersion constraint varies by drainage depending on Hydrologic balance, forage/cover ratios, and harvest unit dispersion standards. See FEIS Appendix B.

Comment

The preferred alternative does not match the results returned by the FORPLAN model. In fact, the preferred alternative appears to shift in and out of the FORPLAN process by accepting parts of the FORPLAN results and rejecting others. The Forest Service did not rerun the FORPLAN model after rejecting some of its conclusions thus the entire preferred alternative is meaningless, and the monitoring program is impossible.

Response

This is coordinated more closely in the FEIS, which uses new FORPLAN runs. All changes to FORPLAN output are put back into FORPLAN, if possible, and the model re-run. See FEIS Appendix B.

Comment

It will be difficult to meet volume targets because of dispersion. FPB-3.8 discusses the 32% proxy and calls it a maximum harvest per decade. When this is used on FORPLAN as a goal and volumes are generated, it then becomes a lot more like a target. We can not meet our volume targets unless we treat the proxy as an approximate, an average.

It would be reasonable to assume that real life could mimic the proxy if proper assumptions were used in its development. As I understand it the 32% proxy for C lands was modeled and validated using a base of virgin unharvested land. Compounding the problem is the old data used to make FORPLAN predications (1982 I believe). The forest has cut approximately 8,000 acres/year in the six years that have gone by. This amounts to about 15% of the suitable C lands. These will be challenging years for sale planners.

> **Response**
>
> New dispersion constraints were developed for FORPLAN which more accurately reflect the ability to harvest in each watershed, and meet Forest Standards. The 32% proxy no longer exists.

Comment

The Forest assumed that 10% of all young stands on suitable acres and all regenerated stands would need to be released...the impacts raises questions about the logic behind such a broad, and seemingly inconsequential assumption about release. Is there any point in releasing stands that are to be managed on 250 year rotations? Is there any economic rationale for managing stands on 250 year rotations? Is PNV an adequate measure for evaluating forest management practices under extended rotations?

> **Response**
>
> Release was re-evaluated and a decision was made to not include the cost of releasing 10% of the plantations in the Final Plan. Ten percent was too high, and the incidental cost of release is included in the precommercial thinning cost as is. Stands managed on a 250 year rotation were done so for management objectives other than PNV.

Silvicultural Practices

Comment

The forest is regenerated by natural regeneration but takes credit for genetic stock.

> **Response**
>
> The yield tables reflect genetic stocking increases only if artificial regeneration is called for. See FEIS Appendix B.

Comment

There is a need to culture fewer than 125 crop trees per acre to develop windfirmness.

> **Response**
>
> There are several ways to reduce risk of wind damage, such as regenerating the stand, leaving higher densities of stems or forgoing commercial thinning or starting out at wider spacing. See Forest Plan Chapter 4 (Forestwide standards for Timber).

The concern for windfirm trees is outweighed in most areas by other resource objectives. Local experience has shown windfirmness is not related to stand density in all cases.

Comment

Increase for fertilization is not legitimate...none planned. Increased yields based on genetically superior stock and fertilization are overestimated.

Response

The Mt. Hood National Forest is currently fertilizing three to five thousand acres per year. Our 1986-1989 average was 3,800 acres. Fertilization is planned and its effects needs to be included. Increases for fertilization and genetics are only applied when that activity is practiced. Yield increases are conservative, and based on actual plot data around the Region.

Comment

Additional data should be included in the definition of rehabilitated clearcut...something other than 125 trees/acre 4.5 feet tail.

Response

The number and size of trees is related to the adequacy of stocking, not rehabilitation. Other considerations are displayed before that decision is made. See definition of created opening in the Forestwide Timber standards. e.g: A unit in a wildlife emphasis area may not be rehabilitated until the trees are 30' tall.

Comment

Explore uneven-aged management.

Response

Uneven-aged management is now considered in the FEIS. See the Forestwide Standards for Timber in Forest Plan Chapter 4.

Comment

Greater reliance on less intensive practices - such as uneven-aged management, natural regeneration, and selective logging - would promote a much more balanced approach to long-term, truly multiple use of the National Forest's precious resources.

Response

Uneven-aged management, selective logging, natural regeneration, and longer rotations are all considered and discussed in silvicultural prescriptions, and in the Forestwide Timber Standards in Forest Plan Chapter 4. Also refer to Standards for "B" management areas for discussions on the above practices, where less intensive forestry is practiced for the most part.

Comment

Many responses were received which expressed displeasure with the Forest's reforestation practices. These responses stated that it is unacceptable to leave devastated areas unreclaimed for years on end.

Response

The Forest Service is required by law to plant harvested areas to minimum stocking standards within five years of harvest. The FEIS and Final Forest Land and Resource Management Plan and silvicultural prescriptions are developed to fulfill this requirement. See discussions in the Standards in Forest Plan Chapter 4.

Comment

Intensive management practices discussed in the plan include more effective planting of improved stock, fertilizers, and pre-commercial thinning. Oregon Economic Development Department (OEDD) needs more information on the use of these techniques by the Mt. Hood and other forests before it can estimate the long term economic impacts on the forest products industry.

Response

In order to maintain the long-term sustained yield planned in our FEIS, these practices must be done in most stands, to maintain growth on trees. Timber volume harvested is increased by about 20% at the end of a rotation by incorporating these practices into our management.

Timber Standards and Land Allocations

Comment

The plan is completely devoid of any information explaining 1) any quantifiable objectives associated with the production or protection of each of the non-timber allocations, 2) how the rotation ages and harvest rates were derived, and 3) how the extended rotation approach is expected to produce or protect the MMR in question.

Response

Objectives associated with non-timber allocations are addressed with new desired future conditions discussed in Forest Plan Chapter 4. Rotation ages and harvest rates are discussed in FEIS Appendix B. Management Requirements (MRs) and the extended rotation approach are discussed in FEIS Chapter II and Forest Plan Chapter 4.

Comment

It is evident from the discussion throughout the DEIS that the Forest has concluded that timber management, even at reduced levels, is incompatible with other resource uses. The Department of Forestry disagrees with that conclusion.

Response

There is significant interaction and integration of resources in the FEIS. Refer to the secondary goal statements for each of the "B" management areas (Forest Plan Chapter 4), which show that timber management is very compatible and planned for in areas that have other objectives.

Comment

Change the visual standard to read: "Where existing stands in a visual retention area are less than 250 years old, manage the stand to maintain the existing stand age."

Response

The visual corridor standards are changed for retention Visual Quality Objective (VQO), and reflect this. See standards in the Forest Plan Chapter 4.

Comment

Logging in the Multnomah Basin and the Nesmith Point areas is contrary to the intent of the Columbia River National Scenic Area Act. The National Scenic Area Act clearly stated Congressional intent that the recreational and natural resources of the special management areas be protected. Timber management would greatly harm and could destroy those resources.

Response

The Columbia River Gorge National Scenic Area is designated as a separate administrative unit in the FEIS and has no programmed harvest of timber being removed from it.

Comment

Some confusion could result from wording in both the DEIS and Draft Plan concerning the conditions under which timber harvest and salvage operation can occur. Wording in both documents, on pages II-29 and 4-65 can be construed to mean that water quality standards adopted pursuant to PL 95-200 need not be met if timber harvest is conducted for the purpose of reducing catastrophic wildfire potential. This is clearly not the intent of the public law, and both documents should be revised accordingly.

Response

This wording has been clarified. See FEIS Chapter 2 and Forest Plan Chapter 4 (Management Area Standards).

Comment

Why has not the subject of helicopter logging been addressed with regards to management of watersheds, visual areas, fragile soils, recreation areas and the myriad of other categories of management that have reduced cuts or not cut at all?

Response

Helicopter (aerial) logging is a viable and valid logging system which is considered in the FEIS and Forest Plan. See Standards and Guidelines in Forest Plan Chapter 4.

Soils

Comment

How will a "detrimental soil condition" be measured for an activity area? In some cases, damage to 20% of a sensitive area is all that is needed to cause severe off-site damage, or greatly reduce an areas productivity. What areas have a potential for significant soil damage? Are plans being made to avoid soil damage, or will the Forest Service just attempt remedial measures once damage has occurred?

Response

Our goal is to damage as small a percentage of any activity area as possible. 20% of an area is just a guide to indicate the maximum amount of damage allowed. Obviously highly sensitive areas such as very unstable soil conditions requires less impact than 20%. Detrimental soil condition is measured using a intense measuring plan outlined in the soil monitoring plan, see Forest Plan Chapter 5.

Comment

Why do forest practices call for clearing the area of all debris after logging and slash burning? If the debris is left, young trees will have additional nutrients and a supply of moisture. The trees that are currently being planted on barren slopes would thrive better if some of nature's fertilizer is left behind. In turn, homes for rodents and their supply of fungi remains to assist the area in returning to a forest. I strongly urge that the Forest Service put an end to all slash burning, leave fallen logs that have begun to decay on the slopes and leave snags in place to preserve homes for wildlife. These fallen logs and snags will also aid in holding the topsoil in place greatly reducing damage from erosion and increasing water quality.

Response

Present management is to maintain long-term soil productivity. The importance of leaving large woody debris on sites and the maintenance of large amounts of the forest duff are well documented and recognized. Clearing the land of all debris has not been practiced for many years, if ever. The removal of material from small planting sites is often practiced and is necessary on some sites for regeneration.

Comment

We are concerned about the way erosion is estimated. Greater weight should be given in any quantitative assessment to the impact of rainfall and snowmelt runoff on exposed soils. This is especially important when an activity is left incomplete during the winter months. The disturbed soils, subject to heavy rains, produce sediment-laden runoff and significant on-site erosion. The erosion measures used to quantify impacts should not only include soil type, slope and a soil erodibility factor, but add slope length and a rainfall of runoff factor.

Response

The erosion numbers are just indexes of broad groupings of soil types allowing one alternative to be rated against another. Erosion plans are required for all areas of disturbance and should take into account the period of the year when the soil is bare and the soil type, slope, and erosion rating for the soil. See FEIS Chapter III.

Comment

What methods will be used to prevent sediment delivery to streams? In the DEIS (p.IV.6), a sediment delivery index was suggested as a method to illustrate comparative differences between alternatives. We would like more specific details on how the Forest Service will actually measure soil erosion on specific units, and how it plans to prevent sediment delivery into Class I, II, and III streamways.

Response

Our methods would be very similar to those used by the soil conservation service. Our current erosion control plans include seeding of erosion control mixes, fertilization, mulching with grass hay and erosion netting, water bars, and log, fabric, and rock structures in waterways, etc., measuring on specific areas has been accomplished using erosion pins, sediment catch dams, and by monitoring water quality. See FEIS Chapter III.

Geology and Energy

Comment

Need standards and policies for siting large power projects and transmission line corridors.

Response

The discussion of transmission line corridors is found in Standards and Guidelines, see Forest Plan Chapter 4.

Comment

All lodges on the Forest should consider the option to directly use geothermal energy.

Response

The Forest Development Plan is discussed in FEIS Chapter I as well as in Forest Plan Chapter V. Site specific decisions are made based on resource objectives and are not considered under this environmental document.

Comment

The DEIS failed to address the impact of alternatives on Energy corridors. The numbers of acres of avoidance and exclusion areas, for facilities, should be addressed for each alternative.

Response

Numbers of acres of energy corridors and energy facilities are found in FEIS Chapter IV. A map of these locations is available at the Mt. Hood National Forest Supervisor's Office.

Comment

Permitting mineral extraction would be bad for water quality, fish, wildlife and recreation.

Response

The Environmental Consequences in FEIS Chapter IV address the impacts of the alternatives activities on specific resources. An environmental assessment will be prepared for any activity where a Plan of Operations is submitted.

Comment

Revise the DEIS to include a discussion of how all of the earth flow area acres would be managed under each alternative and the reasonably foreseeable environmental effects of each alternative. Include also the cumulative effects of timber harvest over time and the likelihood of major climate events. The DEIS failed to provide a complete and coherent discussion of how these areas would be managed in each alternative. It also failed to provide rationale for designating some areas suitable for timber management and some withdrawn because of the risk of irreversible resource damage.

Response

Further refinement and mapping of the earth flow areas was completed between the Draft and Final. Criteria were developed to group these lands into high, medium and low risk of environmental damage, and mapped accordingly. Those removed as unsuitable because of risk of irreversible resource damage are the highest risk areas. The formulation of alternatives section in FEIS Chapter II discusses how the earthflow acres would be managed. Management would not change with each alternative, see FEIS Chapter IV. The DEIS has been revised and management direction for Earth Flow Areas (Forest Plan Chapter 4) has been rewritten.

Comment

There is no mineral resources inventory and no maps are given of areas with favorable geology for locatable minerals, geothermal potential or oil and gas potential.

Response

Mineral potential survey is published in Forest Plan Chapter 3 and FEIS Chapter III. The Mt. Hood does not have a survey of mineral potential but a general survey is referenced. See FEIS Chapter II for a table showing acres of land available for exploration.

Comment

Quantify value of resources, factor resource value into various alternatives for land use. Numerical dollar values for the mining resource are not provided.

Response

Numerical dollar values for the mining resource are not considered in this document because of the lack of information. There has not been any active or producing mines on record for the Mt. Hood in the past 20 years.

Comment

In the evaluation of alternatives, impacts on mining should be displayed in terms of acres not available for mining in the alternative.

Response

The acres of land not available for mining per alternative is represented in the table in FEIS Chapter IV.

Comment

Evaluate alternatives, impacts on mining in terms of lost economic activity or revenue production.

Response

See the section on salable minerals in FEIS Chapter III and discussion of minerals in FEIS Chapter IV.

Comment

Effects of the availability and restrictions on access on mineral development should be more fully explained in alternatives.

Response

The effects of availability and restrictions on access on mineral development are discussed in FEIS Chapter II and the effects section of Chapter IV. See FEIS Chapter IV for tables expressing the numbers of acres available for mineral access by restrictions.

Comment

Wild, Scenic and Recreation Rivers and scenic viewsheds cover a very large area that could have large impacts on mineral and geothermal development.

Response

The Standards and Guidelines in Forest Plan Chapter IV cover exceptions to other proposed management to protect present mineral interests. Legislation has withdrawn the Wild portions of Wild and Scenic Rivers from saleable, locatable, and leasable mineral entry.

Comment

Forest Plan does not adequately consider minerals in designing alternatives or recreation for land class.

Response

The Standards and Guidelines for minerals give direction for land class, see Forest Plan Chapter 4. Chapter IV of the EIS also discusses the effects on minerals for each alternative.

Comment

Plan and DEIS do not make it easy to determine specifically how standards and guidelines and alternatives would effect existing energy corridors and resources particularly biomass, hydrology and geothermal.

Response

A statement has been added to the standards and guidelines which explain how they will effect existing energy corridors, see Forest Plan Chapter 4. Chapter IV of the FEIS considers the effects on the existing corridors.

Comment

A goal should be added which provides for cost-effective and environmentally acceptable energy. Transportation planning should be in accordance with regional energy policies and programs.

Response

A goal has been added to Forest Plan Chapter IV. It's intent is to facilitate the exploration and development of energy and mineral resources on the Forest while maintaining compatibility with other resource areas.

Comment

It would be helpful if designated corridors were illustrated on a facilities map. The attached BPA Facilities Map illustrates the corridors BPA recommends for designation.

The Management Areas Standards and Guidelines do not consistently address utility corridors. It would be useful if they were to identify specifically the areas considered avoidance or exclusion areas. Since there are so many acres of land occupied by energy facilities on the Forest, BPA recommends that a management area be specifically developed for corridors and facilities, as for the Mt. Baker-Snoqualmie and Gifford-Pinchot National Forests.

Response

The corridors are identified on our timber suitability map as unsuitable for timber production. The management area standards and guidelines have been revised to recognize the fact that corridors cross many allocations and the standards of those allocations allow for the need to maintain the corridors. Utility corridors are not considered as separate management areas. See Forestwide Special Uses Standards and Forestwide Lands Program Standards in Forest Plan Chapter 4.

Comment

Standards and guidelines for new management prescription should reference the project plan and right of way maintenance plan as important documents which guide the construction and maintenance of BPA transmission.

Response

It is important to have a project plan and maintenance plan developed to guide the construction and maintenance for BPA transmission. Monitoring of such maintenance plans is stated in Forest Plan Chapter 5.

Comment

Chapter 1 page 1-7 minerals should be given consideration in the selection of the proposed alternative.

Response

Minerals are given consideration in all the alternatives. See FEIS Chapter IV.

Comment

DEIS Chapter III pg III-101,102 this section should discuss communication sites, substations and other energy facilities that occur in the Forest.

Response

There is a map with the location of communication sites, substations and other energy facilities which are located on the Forest. This map is located in the Forest Supervisor's office.

Comment

Evaluate the impact of the existing energy policy on programs.

Response

In FEIS Chapter III, the energy policy and the goal and objective for that policy is stated.

Transportation

Comment

There is a weakness with coordination of county comprehensive plans with the Forest Plan.

Response

Traffic generated by Forest Plan activity will be computed (either by Recreation Visitor Days (RVD's) or Seasonally Adjusted Daily Traffic (SADT)) and data passed on to the appropriate State and County Transportation Departments so they may evaluate the impact on their respective transportation systems. See Appendix B for calculations relating to any increase in RVD's or Timber Related traffic. See also FEIS Chapter IV, Environmental Consequences, for results of cumulative effects analysis. See FEIS Appendix G for synopsis of other comprehensive plans as they might affect the Mt. Hood National Forest. Impacts of activities need to be assessed for cumulative effects on existing Transportation System maintained by other jurisdictions.

Comment

The Forest should maintain right of facility access at all times for facility maintenance and emergency access for existing power facilities.

Response

Facility access rights would be a function of applying for and utilizing a Special Use Permit. Therefore, there is no need to change the wording of Appendix G. There is a need to provide facility access for maintenance and emergency use. This need should be recognized in issuing the Special Use Permit, which would include the Permittee assuming responsibility for access monitoring to minimize resource damage, such as using appropriate vehicle types to minimize damage.

Comment

The last page of Appendix H is incorrect because it states that the Bonneville Power Administration will not require additional right of way. The Bonneville Power Administration will require additional right of way.

Response

The Forest will adopt wording from DEIS Chapter III, Special Use Permits section, to describe projected need for utility corridors. This wording will be used in Appendix G (DEIS Appendix H). Should a new transmission corridor be needed within the life of this document then it should be addressed by a separate environmental analysis concerning that particular project or corridor.

Comment

Evaluate the environmental consequences of alternatives on energy corridors and facilities.

Response

The need for new energy corridors is an issue which probably will not be addressed in the life of this document. The need to address a particular new corridor should be handled by a separate environmental analysis. Should a new transmission corridor be needed within the life of this document then it should be addressed by a separate environmental analysis concerning that particular project/corridor.

Comment

The following wording is suggested for the FEIS. "When right of way for Federal aid or Forest Highway Routes are not defined, a management effort will be made to work out such details with the government officials having operating responsibility".

Response

This wording has been added to FEIS Chapter III, Special Use Permits section. This wording encourages greater cooperation in working with Memorandums of Understanding between agencies regarding transportation facilities.

Comment

In summary, we believe, due to the severe environmental impact from road construction and reconstruction activity, the road building program should be severely curtailed. Roads built or reconstructed for recreational use only should show proof of need, and that the project is in the public interest. In watersheds where streams or rivers currently do not meet State minimum standards for temperature, flow, sedimentation and turbidity, roads should be built or reconstructed only if the project would correct existing problems or improve water quality.

Response

Measures to minimize adverse effects of roads and landform disturbance are addressed in Management Area Standards and Guidelines for B6 Special Emphasis Watersheds and B7 General Riparian Areas, and also in Forest Wide Standards and Guidelines for Riparian Areas and Transportation Systems. See Forest Plan Chapter 4. These Standards require the development of Road Management Objectives which are a documentation of the need to construct or reconstruct each road.

The Land and Resource Management Plan sets the standards and guidelines for each Management Area (Lane Use Type). Groups of specialists including Hydrologists, Biologists and Engineers then meet to develop Road Management Objectives based on the standards and guidelines. The Road Management Objective provides the guidance for how to mitigate effects of a particular project.

Comment

The Forest Plan fails to adopt a road construction management policy.

Response

Road management is an integral part of each management area on the Forest. Forest Plan Chapter IV contains the overall goal and desired future condition expected for each piece of land on the Forest. Road construction objectives or policy is designed to meet these desired future conditions. The Standards and Guidelines coupled with Road Densities and expected road building miles provide a framework for the Road Construction Management Policy. See Forest Plan Chapter 4. The actual miles built on the ground will be determined during implementation.

Comment

The Off Road Vehicle Plan (Forest Plan Appendix D) does not adequately address road construction needs.

Response

The Plan's purpose is to provide Forest Wide direction so that there is a uniformity throughout the forest in determining the areas suitable for Off Highway Vehicle (OHV) use. These lands belong to the public and they deserve to know how activities impact the land. There is also a need to provide consistency throughout the Forest on where and when certain activities should be avoided.

Economics

FORPLAN Economics

Comment

Planners included overhead in the FORPLAN costs of sale preparation and fuels treatment. However, they did not include overhead in FORPLAN costs of reforestation, precommercial thinning, and fertilization.

Additionally, a February 13, 1988 draft process paper lays out the methodology for calculating the budget and revenue figures in the DEIS. According to this paper, a figure was added to the total budget for "Protection," and "Variable GA" was calculated as 17.857% of the non-MINLVL budget. Since many of the costs were already increased for GA, it appears that this process double counts at least some of the GA costs.

Response

This has been corrected in the analysis for the final; see FEIS Appendix B. Overhead was applied to costs inconsistently in the analysis for the draft; the error was found after it was too late to correct it. A sensitivity analysis subsequently showed that this error would have had little effect (Haber, 1988).

Comment

It is difficult from the discussion in the text to determine the assumptions behind the timber costs and benefits used in the FORPLAN model.

Both stumpage value and logging costs should be based on harvested volume instead of sold volume so that timber sales which were returned to the Forest Service under the provisions of the Timber Contract Payment Act of 1984 are appropriately included in this analysis. A broader and more recent historical reference, such as 1977 to 1987 should be used as the source of these values in the Final EIS.

Also, the logging costs used for the adjustment [for slope] and the logging costs incorporated in the mill value are from two different sets of sales, those sold between 1977-83 and those harvested between 1977-83. While there is certainly some overlap between these sets of sales, the logging cost trend shown in Table 16 raises a question as to whether the $130/Mbf is very close to the appraised logging costs on the volume used to derive mill values.

Response

Assumptions used in the FORPLAN analysis are displayed in FEIS Appendix B. The stumpage values used were calculated by an accepted methodology. Their use is required by the Regional Office unless the forest is able to provide better figures. Stumpage values often vary widely over a period of time as long as the 10-year planning horizon. The values used are the best numbers we have available which are reasonably representative of stumpage over the planning horizon.

Comment

Please show historic budget information and FORPLAN budget constraints.

Response

Budget information is provided in FEIS Chapter II. FORPLAN budget constraints are detailed in FEIS Appendix B.

Comment

The most important set of costs that lack any source are the road costs. The specific source of the data should be identified and available for evaluation. The road costs used seem high; the costs used in the draft were apparently developed before recent efforts to reduce road costs. Road costs were poorly developed and not accurately applied.

An example of this is that before assigning a cost for this road construction to prescriptions that harvest timber the Forest multiplied the figure by 1.39 to account for unsuitable acres. This approach will likely overstate road costs in most alternatives, since it does not recognize that some of the suitable timber acres are assigned to no-harvest prescriptions and do not need to be roaded if they are in large contiguous blocks.

Response

All the road costs used in the analysis for the draft documents were re-evaluated for use in the final. Many of these costs were revised. These changes are detailed in two process papers; Cost Changes Between Draft and Final (Ulbrich, 1990) and Final Plan FORPLAN Economics (Ulbrich, 1990). These are also summarized in FEIS Appendix B.

Comment

Where actual budget data was used to derive a cost estimate, different time periods were used as the basis for different costs. Mixing time periods is not a problem if unit costs remain relatively constant. Since the Forest Service has made great strides towards reducing unit costs in the face of large budget cuts, however, mixing time periods may result in an inaccurate portrayal of the relative differences between costs. Also, using average costs from past years to estimate future costs may overstate the costs that will be experienced. It may also understate some costs.

Response

All cost, benefit, and budget data used in the analysis for the draft EIS and Plan was re-evaluated for the final analysis. The criteria used to determine if revision was needed was that costs and benefits had to accurately reflect the cost of the program or activity in the past two fiscal years, with slight adjustments if needed for expected large changes in future costs. The time period per se is not important if the costs are accurate for today. This is detailed in the process paper Cost Changes Between Draft and Final (Ulbrich, 1990) and summarized in FEIS Appendix B.

Comment

Natural regeneration costs were derived by multiplying planting costs by .55, a figure derived from a national productivity improvement team report. This does not seem to be a use of "the best available data," as required by the planning regulations.

Response

These costs were re-evaluated and were changed. See the process paper Cost Changes Between Draft and Final (Ulbrich, 1990). This is summarized in FEIS Appendix B.

Comment

The Forest assigned initial road construction costs to existing stands that will be commercially thinned before final harvest. It is unlikely that the Forest would ever consider building and financing new roads for commercial thinning. This aspect of the model does not conform to reality and should be changed.

Response

As explained in FEIS Appendix B, no new construction costs are assigned to commercial thinning of existing stands unless the intention is to use those roads later on for final harvest. There may also be new construction if there is another reason to build the road, such as for recreation needs or fire protection.

Comment

All forest management practices, their costs and results, are assumed to be identical for all stands greater than 110 years regardless of their actual age. This is contrary to logic and experience.

Response

The age of the stand was not considered to be a significant variable in determining operating costs. This is not necessarily the case for benefits. Stumpage values vary with the size of the tree, so older (and therefore larger) trees are assigned higher values.

Comment

Oregon Economic Development Department (OEDD) would like more information about the costs and benefits of different visual categories and the standards and guidelines controlling their implementation. The ASQ trade -offs associated with the visual management prescription for each alternative should also be portrayed.

Response

Costs and benefits of visual management are discussed in several places, particularly FEIS Chapter II. The standards and guidelines are described in Forest Plan Chapter 4. ASQ trade-offs for visual management vary by many factors; the tradeoffs are described to the extent possible in FEIS Appendix B and FEIS Chapter II.

Comment

Planners compounded the overestimates of current timber prices with the assumption that prices would increase by 1 percent per year faster than the rate of all other resources and costs for the next 50 years.

> **Response**
>
> The one percent price trend is based on observed increases over the past 50 years, and is supported by research (Adams and Haynes, 1985).

Comment

With the intense competition for public stumpage, it is unrealistic for the Mt. Hood to conclude that a horizontal demand curve exists for the Forest's timber. The Forest Service is saying that price will not vary with the amount of timber offered. This does not appear reasonable because the National Forests supply the majority of timber for Oregon.

It is also incorrect to analyze demand and supply without considering prices, market imperfections, etc. The Mt. Hood has considered only quantities.

> **Response**
>
> The Forest Service position is that each individual forest is not important enough in the market to influence price; therefore the demand curve for each forest is horizontal. The Forest Service Pacific Northwest Regional Economist recently completed an analysis of the aggregate implications of forest plans on timber supply in the Pacific Northwest (Fox, 1989); this document discusses potential price effects. This is discussed in FEIS Chapter IV, and FEIS Appendix B.

Comment

The Forest Service has decided to use 4 percent as the appropriate discount rate in forest planning. Despite this decision, however, investments in forest management are never actually tested to see whether they produce 4 percent.

> **Response**
>
> Rates other than 4 percent are tested in a sensitivity analysis to determine the effects of a change in the discount rate. The results of these analyses are displayed in FEIS Appendix B. Forest management investments are, by their nature, long-term investments. We can run a variety of computer models today to analyze forestry investments, but it is only over time that forest management investments can truly be tested.

Comment

An explanation of why productivity and market conditions were assumed to be constant, such that harvest levels were the only variable in the calculation of employment impacts, would be useful.

> **Response**
>
> All three of these factors were considered in the analysis of employment impacts for the final EIS. It may appear that productivity and market conditions were not considered because these variables are harder to quantify than harvest levels. In addition, these variables are influenced by so many factors that they can only be analyzed in a fairly general way.

Comment

A more thorough analysis of the various mills in the area that are dependent on the Mt. Hood National Forest for their timber would be helpful.

Response

The extent to which area mills are dependent on timber from the Mt. Hood National Forest depends on the type of product they produce, what the forest is able to offer at any given time, and a variety of market conditions. The number and nature of local mills was considered in the economic impact analysis.

Comment

The forest should re-evaluate natural regeneration as the most cost efficient.

Response

Even though a natural regeneration prescription does have a better PNV than a planting prescription, in most cases, the availability of FORPLAN to choose natural regeneration over a large part of the Forest was restricted to minimal percentages, based on species zone. This is due to differing regeneration levels in different species zones.

Comment

Cost derivation for regeneration is not correct.

Response

Regeneration costs have been updated in the Final EIS to reflect total costs of reforesting a site.

Economic Impact Analysis

Comment

The 1977-86 averages do not represent what the surrounding counties have experienced over the last few years. The 1985-87 harvest level slightly exceeds the proposed maximum harvest level under the new Plan.

We believe it is imperative that the Forest compare the proposed allowable sale quantity and associated economic effects to those of the last few years, in addition to the longer period, and that you expand your base period to include 1987, giving you 11 years (1977-87) for comparison.

Response

In the FEIS, effects are compared to a 1979-1989 baseline to the extent possible.

Comment

The Plan does not adequately address the proposed reduction in the timber sale program on county schools and road budgets nor does it discuss the tax implications from such a reduction.

Response

These impacts are discussed in as much detail as can be estimated. To the extent possible, the absolute numbers are displayed. See FEIS Chapters II and IV.

Comment

We recommend inclusion of estimates of non-timber jobs which would be created as a result of maintaining more recreational opportunities under the various alternatives. We also believe there would be an increase in jobs/income in the private sector among small woodlot owners if the Mount Hood National Forest timber supply was curtailed. We would also like to see these considerations included in the analysis of community stability. Also, you should especially consider the impact of the proposed plan on Forest recreation-dependent communities, like Welches and Rhododendron, as you do for timber-dependent communities.

Response

This aspect of community dependence is more fully discussed in the FEIS. See specifically FEIS Chapters II, III, and IV.

Comment

The Forest Service has not addressed the long-range impact on the eastside communities in Wasco County, especially Pine Grove, Tygh Valley, Wamic, Maupin, and Dufur.

Response

It is difficult to show impacts on individual communities because the model used to calculate impacts only analyzes effects at the county level. Also, information is difficult to get for small communities. There is a discussion of the economic effects on Wasco County in Chapter IV FEIS in the section on communities.

Comment

The plan does not accurately research disastrous economic effects on the State of Oregon. The Forest Service does not consider wage scale economics. Jobs that will be lost are at $10.00 to $15.00 per hour. Replacement or new jobs are at minimum wage. The 10-year economic base includes worst 5-year period in recent history. Base line production should be normal 400mmbf/year. Real reduction will be 33% of timber volume, not 5% as in plan. Net gain of 200 jobs in preferred alternative is inaccurate.

Response

FEIS displays a new period, taking highs and lows into consideration. The net job gain is reevaluated in the FEIS.

Comment

Would it not be appropriate to use the 1983 IMPLAN model and data rather than the 1977 model and data?

One of the most important changes has been the closure of inefficient sawmills and their replacement with more efficient mills. Another change has been the reduction in wages for mill workers. Neither of these problems is acknowledged; this would result in overestimation of unemployment effects.

Response

The most current version of the IMPLAN model has been updated to 1982; this is the version used for the analysis for the Final Plan and EIS. The IMPLAN model has not been modified to account for these effects. See FEIS Appendix B for a discussion.

Comment

The Forest Service should expand their influence area to include the entire Portland Metropolitan area by adding Washington and Yamhill counties. Residents from these counties use the forest extensively for recreation. Further, the Portland labor market consists of four counties because of the commuting patterns that exist in the area. Also, Washington and Yamhill counties should be included because of the relative magnitude of the indirect and induced impacts which occur in these counties.

Response

As explained in FEIS Chapter III, activities and resources on the Mt. Hood National Forest influence the social, political, economic, and natural characteristics of a large area which extends into several counties in Oregon, Washington, and even beyond. The area defined as the Mt. Hood influence area is displayed in FEIS Chapter III and Appendix B and includes all or parts of Clark and Skamania Counties in Washington, and Hood River, Wasco, Jefferson, Marion, Clackamas, Multnomah, Washington, and Yamhill Counties in Oregon. The economic and fiscal analysis covers this entire area, but is more detailed for the counties immediately surrounding the forest -- Hood River, Wasco, Clackamas, and Multnomah Counties for timber, and those counties with Washington County for recreation.

Comment

Insufficient information is provided to properly evaluate the IMPLAN response coefficients used by the Mt. Hood. Explain why you analyze lumber instead of timber harvested.

Response

A discussion of the IMPLAN analysis is included in FEIS Appendix B. Changes to the default values in the IMPLAN data set are detailed here. Lumber is analyzed in IMPLAN instead of timber harvested because IMPLAN analyzes changes to the sector in which the product is processed before it leaves the study region. In this case, that is the mill sector, not the harvesting sector.

Comment

In the final EIS, the Mt. Hood should graph changes in personal income as well as employment. More documentation is needed for a thorough analysis of this important subject.

Response

The display of economic effects in the Final EIS and Plan is more detailed than it was in the Draft. This information is shown in FEIS Chapters II, III, and IV.

Recreation Economics

Comment

At no place in the Plan is there an analysis of the current or anticipated number of jobs dependent on the non-consumptive uses of the forest. The State of Oregon is now spending significant sums, which are anticipated to grow, in order to develop tourism and recreational activities. The current plan precludes the development of these opportunities by failing to give any consideration to them. By failing to consider the economic dependency of future and anticipated uses in the certain terms of dependent jobs and dollars yielded, the Plan is deficient and precludes the direct comparative analysis between user demands which is critical for non-arbitrary, non-capricious compliance with the law.

Response

Recreation-related jobs are analyzed and discussed in FEIS Appendix B and Chapter IV. This analysis and the display of this information will be expanded for the Final EIS.

Comment

We believe an improved approach towards assessing forest output is to include a dollar value for recreation. A statistical approach can illustrate how recreation contributes to the community economically and can be applied to all user groups. So much is said about how timber harvest is tied to communities' economic health that other economic benefits in regard to recreation and preservation are overshadowed.

Response

To the extent possible, a dollar value is attached to recreation. These values are displayed in FEIS Appendix B.

Comment

Economic benefit analyses should be recast with recreational values appropriate to the Mt. Hood Forest. They should also be formulated for specific areas of recreational use especially where recreation and timber allocations may be in conflict.

Response

The Forest has contracted with Oregon State University to analyze both the value of recreational activities and to project demand for these activities. This study uses the recently completed Oregon State Comprehensive Outdoor Recreation Survey data. This work has provided us with up-to-date recreation information that is specific to the Mt. Hood National Forest (Johnson and Hospodarsky, 1989).

Below Cost Timber Sales

Comment

Additional analysis by the forest is needed. Information needed by the public includes the percentages of sales and volume that are below cost, the amount of cross-subsidization that occurs, a historical perspective, and the treatment of this issue by alternatives. No such evaluation was made in the Forest Plan or EIS. Planners made no attempt to address the even more serious question of money-losing investments in second-growth management.

Response

Information on below-cost sales is provided in Chapter III of the FEIS. Areas where below-cost sales might occur are analyzed in detail and reported in the FEIS.

Planning

Comment

The 1984 Oregon Wilderness Act prohibits logging within the buffer of the Bull Run Reserve (i.e., the portion along the headwall rims of upper Tanner and Eagle Creeks).

Response

The 1984 Oregon Wilderness Act committee report prohibits regulated harvest of timber within the Northeast buffer of the Bull Run adjacent to the Columbia Wilderness. This has been corrected on Forest Plan maps.

Comment

The plan identifies 4,800 timber industry jobs directly dependent on the forest and identifies the local recreational user base as 842,000 people, which even the Plan admits will increase by 50% in the next decade. (Plan p.2-32,33). The Plan is specifically deficient in regard to these numbers and consequently also as to the analyses which are based on these wrong assumptions.

Response

The entire economic analysis has been redone.

Comment

The maps of Alternative G and E appear to classify the entire buffer zone as "C1", which includes the same recreational activities as many other areas of the forest outside the Bull Run, even though the text of the two documents makes it clear that the Bull Run is closed to the public.

Response

The maps have been corrected.

Comment

Regarding the B5 lands, I do not see them identified on your Preferred Alternative E map. You are proposing to set aside 61,000 acres of land for these critters but you don't identify the lands or their locations. This is misleading.

The spotted owl areas are not drawn to scale on the map. I realize the final acreage figure has not yet been decided, but each area will be at least 1,000 acres. Your triangle symbols should be much larger to accurately portray this withdrawal.

Response

An additional map titled Wildlife Resources (Supplement to Alt. Q) has been prepared which does identify these areas to scale.

Comment

Several paragraphs in the DEIS and Draft Plan (pages II-29 and 4-57, 4-76, respectively) seem to imply that both the north and south buffer zone will be managed as "standard acres." However, it seems clear from the wording of the 1984 Oregon Wilderness Act that the portion of the northern buffer previously included in the Eagle Creek wilderness Study Area is not to be managed under this same direction.

Response

Wording has been clarified and maps adjusted.

Comment

We are concerned here with the approximately 7000 acres within the Columbia River Gorge National Scenic area. In 1975, the Eagle Creek Plan placed most of this land, approximately 4500 acres, within special interest areas where there would be no programmed timber harvest. The remaining acreage approximately 1000 acres on the Nesmith Point Plateau, and 1500 acres northwest of Larch Mountain) was classified under "landscape management", similar to the B2 designation now in use. (Incidently, these two areas are incorrectly shown as C1 on the No Action alternative map.)

Response

The maps have been corrected and the boundary for the Columbia River Gorge National Scenic Area has been added.

Comment

Appendix F of the DEIS is grossly inadequate and misleading in its analysis of the possible effects of the Northern spotted Owl SEIS on the Mt. Hood Forest Plan. I suspect that the projections in the DEIS significantly understate the future recreation demand trend. Even if accurate they warrant attention and innovation to avoid the far less satisfactory and expensive solution of rationing. Important costs were left out of the DF-SIM model and overhead costs were omitted from reforestation, pre-commercial thinning and fertilization costs. These factual errors should be corrected.

DF-SIM will significantly over-estimate growth beyond about age 100 unless careful adjustments are made for its gross extra-polation beyond its data base. These yield tables should be reviewed and corrected if necessary. The CHEC review identified some serious flaws in calculation of growth gain due to fertilization. There is also insufficient evidence to justify the extent of the gain predicted. Falldown is an important factor in yield predictions. There appear to be significant errors and arbitrary adjustments in falldown estimates. These must be corrected.

Response

The recreation demand trends have been revised based on updated State of Oregon information. All yield tables and cost estimates have been reviewed and modified. Appendix F has been rewritten to include a discussion of all management requirements.

Comments

The plan violates provisions of the P.L. 92-500 the Federal Clean Water Act (FCWA), the Oregon Water Quality statute and regulations, the National Forest Management Act (NFMA) and the implementing regulations and Oregon's Watershed Enhancement Act. In order for the plan to meet legal requirements of law the plan must reverse the present rate of degradation of water quality in the National Forest and plan stream system by stream system for the "restoration, maintenance and enhancement of water quality" on all streams of the National Forest. Your stream classification system in itself leads to the serious violation of water quality requirements of both NFMA and FCWA. The NFMA compels Forest Service Planners to form one integrated plan for each unit of the National Forest System and to identify and accord special attention to riparian buffer adjacent to the edges of all perennial streams, lakes, and other bodies of water. The Act together with the Forest Service Manual directs a systematic plan for all stream systems and the necessity to evaluate the cumulative effects of management practices employed across the Forest on riparian zone processes. The legislative history of the NFMA calls for adjusting timber harvesting to protect the integrity of the watershed system to function. A minimum of 100 ft. buffer for all perennial stream riparian zones and adequate protection of all intermittent streams is the minimum management requirement. The non degradation requirements of the EPA regulations and the Oregon regulation must be adhered to in the plan. Non degradation must be the minimum management requirements of the plan.

Your plan also did not address the requirements of P.L. 92-500 to provide a balance of Indigenous Populations of Fish, Shellfish and Wildlife.

Response

The Standards and Guidelines have been rewritten to meet State water quality requirements. See Forest Plan Chapter 4, Resource Summaries for specific information relating to width of streamside protection. See Forest Plan Chapter 4 (Standards and Guidelines) for specific direction for all streams, lakes, and other bodies of water. Forest Plan Appendix A identifies specific enhancement and restoration projects.

Comment

National Forest Management Act regulations state that management decisions must be made from the "best available data." 36 C.F.R. sec. 219.12(d). Failure to use the best available information violates the planning rules. The Forest Service has failed to present evidence on the record that will support the management decisions made in the Mt. Hood proposed Forest Plan. Because of this fatal flaw, the decisions made by the Forest Service are arbitrary and capricious and must be vacated. 5 U.S.C. sec. 706.

The Forest Service must re-evaluate its decision to reduce the allowable sale quantity (ASQ) for the Mt. Hood based on the primary purposes named in the Organic Administration Act and re-affirmed by the Multiple-Use, Sustained-Yield Act (MUSYA). Additionally the Forest Service cannot manipulate the supply of timber from the Mt. Hood which will force many area sawmills to permanently close. 5 U.S.C. sec. 475. The proposed plan fails to meet the dual objectives in Organic Act and MUSYA to manage the Forest to provide timber and protect water resources. The Forest Service must provide for a continuous supply of timber to support dependent communities. 36 C.F.R. sec. 221.3(a)(1).

The Forest Service violates the National Environmental Policy Act by constraining the range of alternatives considered in the Draft EIS. 42 U.S.C. sec. 102(E).

Response

The most current data available has been used. An updated timber inventory has been utilized in the FEIS. Updated recreation information from the State of Oregon has been incorporated, and economic information has been upgraded.

A "high-level" output of various renewable resources has to be viewed in context of all the resources of the Forest including: recreation, range, watershed, timber, wildlife and fish. A "high-level" of all these resources necessarily requires an appropriate blend; it does not dictate that one resource will be given undue preference over another. The Multiple-Use Sustained-Yield Act of 1960 directs that the several products and uses of the National Forests be administered with due consideration given to the relative values of the various resources in a particular area. The various renewable resources are to be managed "so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources...; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources...with consideration being given to the relative values..., and not necessarily the combination of uses that will give the...greatest unit output." While some alternative themes in the FEIS may weigh one or several resources far heavier than others, they still appear consistent with the Organic Administration Act of 1897, the Multiple-Use Sustained-Yield Act, and NFMA. The critical point is the decision which has as its basis numerous laws and regulations applicable to the future direction and management of the National Forest. None of these laws and regulations mandate the achievement and maintenance in perpetuity of a high-level annual output of timber at the expense of other resources.

The issue of community stability was recently addressed by the Federal District Court for the District of Wyoming in Intermountain Forest Industry Assoc. v. Lyng, 683 F. Supp. 1330 (D. Wyo. 1988). The district court held that the Organic Administration Act does not require the Forest Service to manage the National Forests solely for timber production and gives the Secretary of Agriculture the discretion whether or not to sell timber (16 U.S.C., Section 476). The court also held that the Multiple-Use Sustained-Yield Act substantially broadened the purposes of the National Forests as originally stated in the Organic Administration Act, putting recreation, range, watershed, and fish and wildlife on an equal footing with timber production. The National Forest Management Act then tied the Secretary of Agriculture's broad discretion to sell timber to the multiple-use concept. Thus, in order to achieve the purposes of the Multiple-Use Sustained-Yield Act, the Secretary may sell timber. Id. at 1337-1338; 16 U.S.C. 472a. In addition, the court held that the Secretary of Agriculture's broad discretion to sell timber under the National Forest Management Act, combined with the multiple uses for which the National Forests are to be managed, means that the National Forests are not necessarily to be managed primarily to produce economic benefits.

In light of this conclusion, the court then interpreted the regulation at 36 CFR 221.3 which addresses community stability. The court found that, under the regulation, stabilizing local communities is subject to timber management constraints and must be coordinated with other National Forest uses. Thus, the regulation imposes no absolute requirement that the National Forests be managed to promote local economies.

Although there is no statutory requirement for, nor definition of, community stability within the Organic Administration Act, as amended by the National Forest Management Act, the stability of local communities has long been a concern of the Forest Service and will continue to be into the future. The requirement that Forest Plans maximize "long term net public benefits in an environmentally sound manner" allows the Forest Service to include stabilization of local communities as one of the criteria in choosing the alternative to be the Forest Plan (36 CFR 219.1; 219.3). However, as noted by the court in Lyng, stabilization of local communities is subject to other multiple-use constraints.

The NFMA regulations state that alternatives shall be distributed between the minimum and maximum resource potential to reflect, to the extent practical, the full range of major commodity and environmental resource uses and values that could be produced. The alternatives in the FEIS provide, in comparative form, a strong range of options. These allow the issues to be sharply defined and provide the Regional Forester and public a clear basis for choice among them.

The possible number of reasonable alternatives suggested by numerous individuals and organizations was very large. The possible permutations of alternatives was infinite. For each major issue identified, an attempt was made to provide either the maximum range or some reasonable facsimile thereof. Many of the alternatives included in this analysis were developed directly from public input during the scoping process. Those alternatives developed in detail and analyzed in the FEIS, the Preferred Alternative in the FEIS, the Benchmarks, and other alternatives considered but not studied in detail, all contribute to a wealth of variations in theme and range within and among the major issues addressed. See FEIS Chapter II.

Comment

The DEIS fails to disclose which prescriptions were eligible for assignment to particular analysis areas.

Response

Appendix B of the FEIS indicates which prescriptions are eligible for assignment to particular analysis areas.

Comment

Error in citing Congressional Research Service (CRS) work at pages III-54-55 of DEIS, and Specific Information Requested. In reviewing the Mt. Hood Plan, I find a serious error in defining work done by CRS as well as in discussing the "below-cost" sale issue.

Response

The information concerning "below cost" sales has been revised.

Comment

It is unclear if potential increased costs to water users (municipal water supply, fish hatcheries, etc.) due to water quality degradation were included in the economic analysis. Potential costs, such as filtration due to turbidity or chilling water because of increased temperatures at hatcheries needs to be included.

Response

These costs were not included because we feel that by following our standards and guidelines as outlined in Forest Plan Chapter 4, we will be able to stay within the State water quality standards for turbidity and water temperature.

Comment

The Forest Plan fails to implement the Preferred Alternative timber schedule as required by NFMA. There is no commitment expressed or provisions described that will help ensure the sale of planned ASQ.

Response

The Preferred Alternative of the FEIS expressed by the Forest Plan and Record of Decision will be implemented unless modified through the amendment or revision process. The Standards and Guidelines, coupled with the associated land allocations are the heart of the Plan. The timber activity schedule is an objective but not a hard target. The FEIS identifies an anticipated 1st decade average for the preferred alternative. Site specific projects will be identified on a project by project basis. Accomplishment toward the decade average will be monitored.

Comment

The Forest Plan establishes defacto wilderness which is beyond the authority of the Wilderness Act of 1964 and the Oregon Wilderness Act of 1984.

Response

Some land areas are managed as unroaded recreation areas but they are not managed in the same manner as wilderness areas. Plans developed under the National Forest Management Act were to guide all natural resource management activities providing multiple use and sustained yield of goods and services.

Comment

The DEIS does not contain a true No Action Alternative that represents the existing plan.

Response

The Current Direction (No Action) alternative meets the requirement of 40 CFR 1502.14 (CEQ Regulations). This specifies that at least one alternative reflect the most likely condition of the Forest in the future if current management practices and policies are not changed. Therefore, this alternative includes the goods and services, costs and benefits, and the environmental effects of current management projected into the future. This alternative, presented as management direction provided by existing plans, is identified as Alternative A. This alternative incorporates National Forest Management Act regulations.

The No Change (NC) alternative responds to the Regional direction to project the most likely condition of the Forest in the future if current management practices and policies are not changed, and analytical techniques and legal requirements remained as they were when the existing Timber Management Plan was adopted in 1977. As such, this alternative predates the National Forest Management Act regulations, 36 CFR Part 219, of 1979.

Comment

The DEIS fails to consider an alternative designed to coordinate and harmonize the resource uses of the Mt. Hood National Forest.

The DEIS does not contain a broad range of alternatives to the proposed action as required by NEPA and NFMA.

Response

The FEIS contains modified alternatives which address the major concerns expressed by a majority of the public. These are in addition to alternatives displayed in the DEIS, which are designed to provide a reasonable range of opportunities for resource use and management across the Forest.

The number of alternatives which could be developed are unlimited, but a reasonable range of alternatives was developed based on the original scoping of alternatives, public responses to the DEIS, and existing federal laws. See FEIS Chapter II for further description of alternative formulation.

Comment

Environmental and economic effects of alternatives are misleading or not disclosed.

Response

The environmental and economic effects are disclosed in detail in FEIS Chapter IV.

Comment

The DEIS is not site specific as required by NEPA and NFMA.

Response

The EIS for the Forest Plan is not intended to be site specific for individual projects. It is intended to provide enough information for large scale programmatic type decisions. Site specific analysis is carried out at the project level. Individual analysis is carried out for each project.

Comment

The DEIS is deficient in that it fails to disclose the exact process used to choose one alternative over another.

Response

The DEIS displays the effects of each alternative should it be implemented. The Record of Decision (ROD) discloses the rationale for choosing a particular alternative as the one to be implemented. A ROD is only prepared for the Final EIS.

Comment

MMR's are illegal and fail to conform to the Department of Agriculture's appeal decision on MMR's.

Response

The National Forest Management Act (NFMA) set legal guidelines for management of the National Forests. The guidelines were interpreted by the Secretary of Agriculture, in cooperation with a Committee of Scientists and with public and professional involvement, to develop regulations. Direction from the Chief of the Forest Service and Region 6 resulted in Management Requirements (MR's) which reflect the requirements of the laws and regulations in NFMA. The MR direction ensures that minimum legal requirements are applied to all alternatives in Forest plans consistently across all National Forests. MR's exist for dispersal of created openings, water quality, riparian and wildlife habitat as required by NFMA.

An Appendix (F) that addresses the MRs will provide the rationale for the decision to include MRs in the planning process. According to this Appendix, many laws and regulations guide Forest Service activities. One law in particular, the National Forest Management Act of 1976 (NFMA) and its implementing regulations, provides direction for the Forest planning process. This direction is a legal requirement. It represents "end objectives" which must be met during Forest Plan implementation. For example, the NFMA implementing regulations require that "fish and wildlife habitat shall be managed to maintain viable populations of existing and desired non-native vertebrate species in the planning area." It is mandatory that whatever implementation methods are chosen, the Management Requirements be met.

Specifications or standards of achievement for each Management Requirement are established at the national level or through analysis at the regional level, for most of the Management Requirements. These are listed in the regulations and in the Standards and Guidelines in the Regional Guide.

The minimum requirements for integrating individual forest resource planning into the Forest Plan are established in 36 CFR 219.14 through 36 CFR 219.26.

The minimum specific Management Requirements to be met in accomplishing goals and objectives for the National Forest System are identified in 36 CFR 219.27.

Response to Public Comment

Comment

The development and application of management prescriptions violates the NEPA, the MUSY and the NFMA.

Response

There is no specific restrictions within NEPA, MUSY or NFMA relating to the use of management prescriptions.

Sensitivity testing with the FORPLAN model indicated that when given a choice, the model tends to opt for the prescription with the highest timber output in all cases. To develop a range of alternatives and represent allocations of some specific land areas to groups of prescriptions designed to emphasize other resource values (many of which are nonpriced), it is necessary to "force" FORPLAN through additional constraints to simulate the land allocations for alternatives designed by the Interdisciplinary Team rather than trying to build the linkages in the model to get logical allocations of contiguous acres to Management Areas that would provide the desired benefits. Given the land allocation and the prescription intensities and timing choices, the FORPLAN model solves for the most efficient (optimum) set of prescriptions and schedule of activities for each alternative. The analysis process is described in FEIS Appendix B, and summarized in FEIS Chapter II (Description of the Analysis Process).

Comment

The DEIS fails to adequately disclose the analytical process.

Common constraints are not identified as to particular land areas and are not explained or justified.

Discretionary constraints and their opportunity cost are never revealed.

Response

The analytical process is described in detail in FEIS Appendix B.

Comment

Selection of FORPLAN and other computer models should have been subjected to the rule-making procedures of the Administrative Procedures Act (APA) and the public disclosure involvement requirements of NEPA.

Response

There are no requirements that analytical tools are subject to the rule making procedures of the Administrative Procedures Act or the requirements of National Environmental Policy Act.

Comment

The intent of standards and guides in the draft Forest Plan could be clarified and strengthened by a clearer and more complete definition of the terms "should", "shall", "must", "will", etc. The draft Plan for the Siskiyou N.F. provides a good example of definitions.

Response

The final document (Forest Plan, Chapter 4) will incorporate a more complete discussion of the intent of each of the terms used in the Standards and Guidelines.

Comment

Plan needs a detailed monitoring plan with a "feedback loop".

Response

Forest Plan Chapter 5 describes three levels of monitoring, which include feedback mechanisms to ensure that practices are adjusted as monitoring indicates. The monitoring is of sufficient detail for general Forest Plan purposes.

Comment

Plan lacks quantitative standards that will protect resources.

Response

More quantitative standards have been incorporated into forest-wide and management area standards, see Forest Plan Chapter 4.

Comment

Since monitoring is mandatory, not optional, how will the Forest Service ensure that monitoring occurs.

Response

Monitoring is a requirement. Estimated monitoring costs have been developed for the alternative adopted in the Forest Plan. Monitoring will be conducted commensurate to the degree that Plan activities are programmed and funded by Congress, see Forest Plan Chapter 5.

Comment

We believe you need to do more to analyze the consistency of your proposed plan with the local government plans. Given the extent and significance of county efforts to identify special resource values on the Forest in their plans, it behooves you to discuss consistency at greater length, particularly in terms of your alternatives.

Response

The relationship between the Mt. Hood National Forest Plan and other regional and local plans is discussed in FEIS Chapter III and Appendix G. The Forest has coordinated its planning efforts with many other agencies and organizations; these are listed in FEIS Appendix A.

Comment

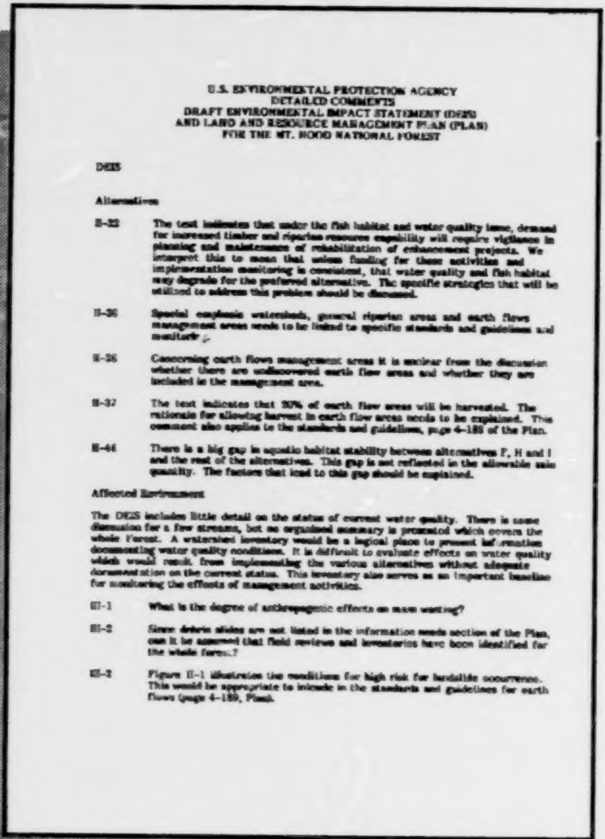
To correct the legal and technical errors, it will require preparation of an entirely new set of draft documents before moving to a final plan.

Response

Updated information has been used in development of the Final EIS and preferred Forest Plan. Although the ASQ has dropped from the level in the DEIS preferred alternative, a supplement to the DEIS is not necessary. This rational is based on review of the total socioeconomic effects of the reduced ASQ and the benefits gained in the non-commodity resource areas. Effects were carefully analyzed utilizing the most current available data and are fully disclosed in the planning documents. Further, the reduction was based on both response to the public comments on the DEIS and updated information and methodologies.

Comments From Elected Officials, Agencies and Indian Tribal Governments

Text Transposed to end.



U.S. ENVIRONMENTAL PROTECTION AGENCY
DETAILED COMMENTS
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
AND LAND AND RESOURCE MANAGEMENT PLAN (PLAN)
FOR THE MT. HOOD NATIONAL FOREST

DEIS

Alternatives

II-22 The text indicates that under the fish habitat and water quality issue, demand for increased timber and riparian resource capability will require vigilance in planning and maintenance of rehabilitation of enhancement projects. We interpret this to mean that unless funding for these activities and implementation monitoring is consistent, that water quality and fish habitat may degrade for the preferred alternative. The specific strategies that will be utilized to address this problem should be discussed.

II-26 Special emphasis watersheds, general riparian areas and earth flows management areas needs to be linked to specific standards and guidelines and monitoring.

II-26 Concerning earth flows management areas it is unclear from the discussion whether there are undiscovered earth flow areas and whether they are included in the management area.

II-37 The text indicates that 30% of earth flow areas will be harvested. The rationale for allowing harvest in earth flow areas needs to be explained. This comment also applies to the standards and guidelines, page 4-188 of the Plan.

II-44 There is a big gap in aquatic habitat stability between alternatives F, H and I and the rest of the alternatives. This gap is not reflected in the allowable sale quantity. The factors that lead to this gap should be explained.

Affected Environment

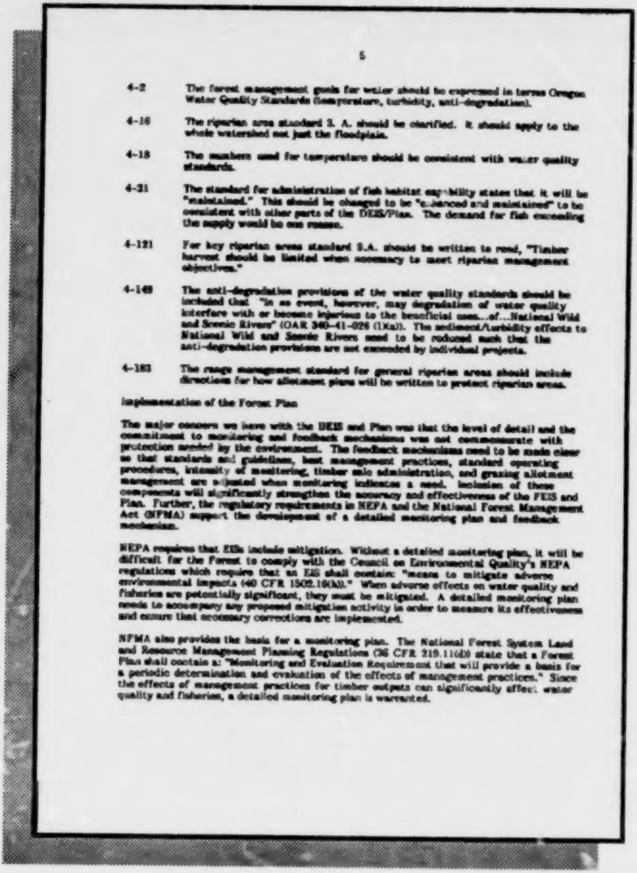
The DEIS includes little detail on the status of current water quality. There is some discussion for a few streams, but no organized summary is presented which covers the whole Forest. A watershed inventory would be a logical place to present information documenting water quality conditions. It is difficult to evaluate effects on water quality which would result from implementing the various alternatives without adequate documentation on the current status. This inventory also serves as an important baseline for monitoring the effects of management activities.

III-1 What is the degree of anthropogenic effects on mass wasting?

III-2 Since debris slides are not listed in the information needs section of the Plan, can it be assumed that field reviews and inventories have been identified for the whole forest?

III-2 Figure II-1 illustrates the conditions for high risk for landslide occurrence. This would be appropriate to include in the standards and guidelines for earth flows (page 4-189, Plan).

III-3	The text states that the number and occurrences of debris slides have been reduced significantly since the early 1970's. Is this a reduction in natural landslides or a reduction in man-induced slides?
III-3	An explanation of why 18,000 acres of active earth flow is suitable for timber harvest is needed.
III-6	The text states that less than five percent of the MHNF has had intensive soil surveys. To what degree does this lack of information affect the ability to predict soil effects at the forest plan level and the environmental assessment project level. Is there additional conservation factored into management activities because of this lack of data?
III-7	Additional information is needed on just how much erosion is now occurring on the MHNF today from natural and man-induced sources. This is important to understand the erosion effects of each of the alternatives.
III-7	The erosion of soils discussion is oriented only to timber harvest and road construction. The extent of erosion from grazing also needs to be discussed.
III-8	The text states that the range of water quality on the MHNF closely follows the degree of past management activities and the resultant condition of riparian vegetation. How was this determined? Through monitoring? What type?
III-10	Existing water quality needs to be expressed in terms of Oregon Water Quality Standards. For example, has the standards for temperature and turbidity from management activities been exceeded? To what degree? Increasing, decreasing, or stable trend?
III-11	Map II-3 depicts several municipal supply watersheds. Are these unfiltered surface-water supplies? Under an EPA-proposed rule as required by the 1986 amendments to the Safe Drinking Water Act, an agreement must be reached with the Forest Service that would allow the municipalities to have watershed control in order for them to continue to use these sources without filtration. The proposed Plan should provide a specific indication of how protection of these water supplies will be achieved.
III-14	The text states that data to quantify changes in aquatic habitat condition over time is lacking. To what degree does this lack of information affect the ability to predict aquatic habitat effects at the forest plan level and the environmental assessment project level. Is there additional conservation factored into management activities because of this lack of data?
III-14	Have fish habitat rehabilitation efforts had a measurable effect on fish populations?
III-25	The text indicates that about 250 miles of anadromous stream habitat that is blocked could be made accessible. This mileage does not coincide with Tables III-4 and III-7. These tables indicate a 534 mile difference between habitat capability and habitat capability with full enhancement.
III-26	The paragraph discussing planning and management of aquatic habitats and the section on page III-27 discussing the relationship to the natural environment are excellent. The relationship between water quality and beneficial uses is important to understand.



5

4-2 The forest management goals for water should be expressed in terms Oregon Water Quality Standards (temperature, turbidity, anti-degradation).

4-16 The riparian area standard 3. A. should be clarified. It should apply to the whole watershed not just the floodplain.

4-18 The numbers used for temperature should be consistent with water quality standards.

4-21 The standard for administration of fish habitat capability states that it will be "maintained." This should be changed to be "enhanced and maintained" to be consistent with other parts of the DEIS/Plan. The demand for fish exceeding the supply would be one reason.

4-121 For key riparian areas standard 9.A. should be written to read, "Timber harvest should be limited when necessary to meet riparian management objectives."

4-149 The anti-degradation provisions of the water quality standards should be included that "In no event, however, may degradation of water quality interfere with or become injurious to the beneficial uses...of...National Wild and Scenic Rivers" (OAR 340-41-026 (1)(a)). The sediment/turbidity effects to National Wild and Scenic Rivers need to be reduced such that the anti-degradation provisions are not exceeded by individual projects.

4-183 The range management standard for general riparian areas should include directions for how allotment plans will be written to protect riparian areas.

Implementation of the Forest Plan

The major concern we have with the DEIS and Plan was that the level of detail and the commitment to monitoring and feedback mechanisms was not commensurate with protection needed by the environment. The feedback mechanisms need to be made clear so that standards and guidelines, best management practices, standard operating procedures, intensity of monitoring, timber sale administration, and grazing allotment management are adjusted when monitoring indicates a need. Inclusion of these components will significantly strengthen the accuracy and effectiveness of the FEIS and Plan. Further, the regulatory requirements in NEPA and the National Forest Management Act (NFMA) support the development of a detailed monitoring plan and feedback mechanism.

NEPA requires that EISs include mitigation. Without a detailed monitoring plan, it will be difficult for the Forest to comply with the Council on Environmental Quality's NEPA regulations which require that an EIS shall contain: "means to mitigate adverse environmental impacts (40 CFR 1502.16(h))." When adverse effects on water quality and fisheries are potentially significant, they must be mitigated. A detailed monitoring plan needs to accompany any proposed mitigation activity in order to measure its effectiveness and ensure that necessary corrections are implemented.

NFMA also provides the basis for a monitoring plan. The National Forest System Land and Resource Management Planning Regulations (36 CFR 219.11(d)) state that a Forest Plan shall contain a: "Monitoring and Evaluation Requirement that will provide a basis for a periodic determination and evaluation of the effects of management practices." Since the effects of management practices for timber outputs can significantly affect water quality and fisheries, a detailed monitoring plan is warranted.

The development of a detailed water quality monitoring plan should be based on a list of current beneficial uses, present condition, and desired future condition for each stream or a watershed unit which is small enough to adequately protect the beneficial uses. The present condition and desired future condition can best be expressed in terms of the beneficial use (e.g. percent fish habitat capability). The monitoring plan should include types of surveys, location of sampling, parameters to be monitored, indicator species, budget, procedures for using data or results in plan implementation, and availability of results to interested and affected groups. Enclosed is a copy of our monitoring guidance. Appendices A and O of the Final Nez Perce National Forest Plan, October 1987 includes the level of detail and approach to water quality and fishery monitoring which we believe will accomplish the stated objectives.

The Plan does not identify drainage objectives or include a watershed resource inventory. The drainage objectives could be readily adapted to the way the standards and guidelines are currently written (pages 4-15 to 4-19). A watershed resource inventory summarizes facts, recorded measurements, observations, and other evidence which can be used to determine management objectives for rivers and streams. Oregon's water quality standards and water quality management plans, for instance, were developed using inventory information. An inventory is a key element needed for effective resource management. The drainage objectives derived from the resource inventory then provide a means of implementing the plan.

Achievement of these drainage objectives, conservation practices, and improvement projects can only be evaluated by water quality monitoring and fishery habitat surveys. A good outline of monitoring is provided, however, specific sites or sampling frequencies are not identified. We would support the recommendation to establish a multi-agency technical work group in Oregon to address these concerns and to advise the USFS in developing a water quality monitoring program.

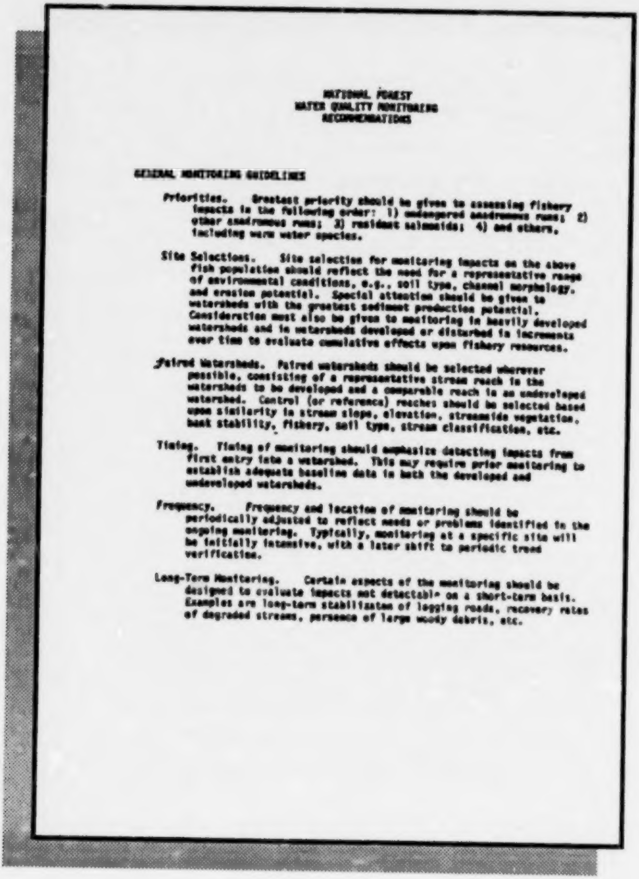
5-9 Landslide mitigation monitoring lists a "continuous process" for monitoring frequency. The number or percentage of projects that will receive this type of implementation monitoring should be specified. For unit(s) of measure we would recommend a measure that indicates to what degree landslide risk has been reduced.

5-16 Habitat capability trend monitoring variability should be compared against a specific goal for each drainage/subdrainage expressed as the smolt habitat capability index (SHCI) or aquatic habitat condition model. This drainage goal can then be linked to the standards and guidelines and priority for information needs. We would recommend ± 20% or less rather than a ± 30% threshold for variability.

5-17 How does the annual change of greater than or equal to 2° F for the temperature monitoring element relate to Oregon Water Quality Standards?

5-17 The biological condition index utilized for aquatic conditions trend should be defined. The relationship between this index and the other indices used in the DEIS/Plan should be explained.

5-18 For monitoring riparian management area activities the "relative risk rating" should also be used in the standards and guidelines and prioritize information needs and develop fish habitat monitoring.



NATIONAL FOREST
WATER QUALITY MONITORING
RECOMMENDATIONS

GENERAL MONITORING GUIDELINES

Priorities. Greatest priority should be given to assessing fishery impacts in the following order: 1) endangered anadromous runs; 2) other anadromous runs; 3) resident salmonids; 4) and others, including warm water species.

Site Selections. Site selection for monitoring impacts on the above fish population should reflect the need for a representative range of environmental conditions, e.g., soil type, channel morphology, and erosion potential. Special attention should be given to watersheds with the greatest sediment production potential. Consideration must also be given to monitoring in heavily developed watersheds and in watersheds developed or disturbed in increments over time to evaluate cumulative effects upon fishery resources.

Paired Watersheds. Paired watersheds should be selected wherever possible, consisting of a representative stream reach in the watersheds to be developed and a comparable reach in an undeveloped watershed. Control (or reference) reaches should be selected based upon similarity in stream slope, elevation, streamside vegetation, bank stability, fishery, soil type, stream classification, etc.

Timing. Timing of monitoring should emphasize detecting impacts from first entry into a watershed. This may require prior monitoring to establish adequate baseline data in both the developed and undeveloped watersheds.

Frequency. Frequency and location of monitoring should be periodically adjusted to reflect needs or problems identified in the ongoing monitoring. Typically, monitoring at a specific site will be initially intensive, with a later shift to periodic trend verification.

Long-Term Monitoring. Certain aspects of the monitoring should be designed to evaluate impacts not detectable on a short-term basis. Examples are long-term stabilization of logging roads, recovery rates of degraded streams, persence of large woody debris, etc.

IMPLEMENTATION MONITORING

This on-site monitoring should evaluate the correctness of Best Management Practices (BMP) implementation. This information will be critical in determining whether adverse instream habitat impacts were caused by inadequate BMPs or improper implementation of BMPs. In general, however, we feel that the specific method used to evaluate the correctness of BMP implementation are best identified by the U.S. Forest Service (USFS).

EFFECTIVENESS MONITORING

Stream Monitoring Parameters. Both fish density (by species and age class) and fish habitat quality should be evaluated. Habitat quality should not be confined solely to substrate composition (e.g., cobble embeddedness and percent fine sediment by depth), but should also include such factors as pool/riffle ratio, amount and size of large organic debris, vegetative cover, channel morphology, etc. Data should be gathered by the most cost effective method while insuring data quality, and utilization of standard methods of measurement and analysis.

CALIBRATION MONITORING

The total monitoring effort should be carefully designed so that one outcome is to improve our ability to predict via models: 1) the actual sediment loading to a stream; 2) the actual impact of those sediments on fish habitat; and 3) the actual impacts of those sediments or other fish habitat changes on fish population.

INTERAGENCY SUPPORT/COORDINATION

Technical Fisheries Advisory Committee. To improve interagency coordination (and to provide technical assistance and support), we suggest that the USFS establish a technical fishery advisory committee in each state. This group could consist of representatives of government agencies who manage the resource or whose activities impact the fisheries resource. By meeting quarterly, or as significant issues arise, this group could identify, and hopefully resolve problems as they develop. They could also play a key role in assisting the USFS in preparing and presenting the annual monitoring report discussed below.

of the agreement should be reflected in relevant sections such as standards, guidelines and monitoring.

The DEIS recognizes the values of riparian, wetland, and other sensitive habitats, such as seeps, springs, unique geological features, cliffs, talus slopes, and meadows. However, additional standards and guidelines need to be developed or modified and incorporated into the final Plan to protect these habitats and the unique and sensitive flora and fauna they support. The FWS believes proposed monitoring of these unique environments is inadequate to assure that buffers or other management prescriptions will protect the resources.

Upland transition areas and forest buffers adjacent to riparian and wetland habitats need to be defined carefully. There may be situations where larger buffers are needed than those recommended or specified to sufficiently maintain a sensitive species, the microclimate characteristics of a site, a particular riparian or wetland function, or other sensitive resource. The FWS recommends that there be no scheduled timber harvest in these important fish and wildlife habitats.

Seeps and springs represent unique habitats. Unique and isolated habitats should be thoroughly investigated, particularly for sensitive plant and endemic aquatic species. Activities and land use practices, such as timber harvest or grazing, on adjacent areas also may need special constraints to protect these unique habitats.

The FWS is opposed to any timber cutting in the mainstem drainage of Eagle Creek to prevent further degradation of the water supply for FWS's Eagle Creek Fish Hatchery. Its water quality was adversely affected a few years ago by a clear-cut on private forest lands above the hatchery. High water temperatures, especially during summer and fall months, and heavy silt loads are still affecting hatchery operations. The FWS has taken the position that the timber resources in Eagle Creek's main fork and south fork drainages be preserved/managed as depicted in Alternative I of the subject plan.

Threatened and Endangered Species

The DEIS does not accurately describe: 1) the status of threatened and endangered species on the Forest; 2) ongoing threatened and endangered species activities; 3) anticipated needs and conditions for peregrine falcon and bald eagle which should be taken into consideration for the next decade; and 4) effects of each alternative on the species and their potential habitats. In addition, standards and guidelines should be provided in The Plan which clearly define Forest Service responsibilities to consult with the FWS on actions which may affect federally listed threatened and endangered species. The monitoring plan is inadequate to track species status, recovery, and conservation actions for threatened, endangered, and candidate species on Forest lands. More specific comments regarding threatened and endangered species will be provided to the Forest under separate cover from the Fish and Wildlife Service as part of informal consultation 1-7-88-1-65.

Wild and Scenic River Resources

In general the study is very well done and the National Park Service (NPS) concurs with the recommendations for Wild and Scenic River designation for the Clackamas, Roaring and Salmon Rivers as identified in Alternative E, the Preferred Alternative.

The NPS believes the Forest should classify river segments to the highest classification possible. Specifically, they question the designation of Roaring River, Segment 2, as recreational. Based on the information provided, Segment 2 would appear qualified to be classified as Scenic.

Given the evidence for the outstanding qualities of the White River, the NPS believes it should have been recommended for designation in the Preferred Alternative. The Wild and Scenic analysis identifies several outstandingly remarkable values of the White River from its headwaters to the Forest boundary, and suggests potential classifications for each segment. In addition, the river appears to be suitable for designation from the Forest boundary to its confluence with the Deschutes. The White River is also included in the Omnibus Wild and Scenic Rivers Act of 1988 (S.2148, H.R. 4164, and H.R. 4259). Based on this evidence, it would appear that this river should be given further consideration for Wild and Scenic designation.

The Pacific Northwest Rivers Study identifies several other rivers in the Forest with outstanding fish, wildlife and recreational values. These include the Collawash, North Fork of the Clackamas, Oak Grove Fork of the Clackamas, Sandy, Zigzag and East, Middle and West Forks of the Hood. The Sandy River is an Oregon Scenic Waterway and included in H.R. 4164. The North and South Forks of the Clackamas, Oregon Waterways outside the Forest boundary, are included in the 1988 Oregon Rivers Initiative. Given the recognized quality of these rivers, they should be included in the Forest study.

The NPS recommends the following revisions to the Plan: 1) Recommended classifications should be clarified for the Clackamas, Roaring, Salmon and White Rivers. The classification of Segment 2, Roaring River should be reviewed. 2) Segments 1, 2 and 3 of the White River should be reconsidered for designation and, if recommended for designation, such recommendation be included in Alternative E. 3) Additional Rivers, as listed above should be included in the Final Plan. We recommend that these rivers be managed according to the guidelines for candidate rivers until they can be studied at a future time.

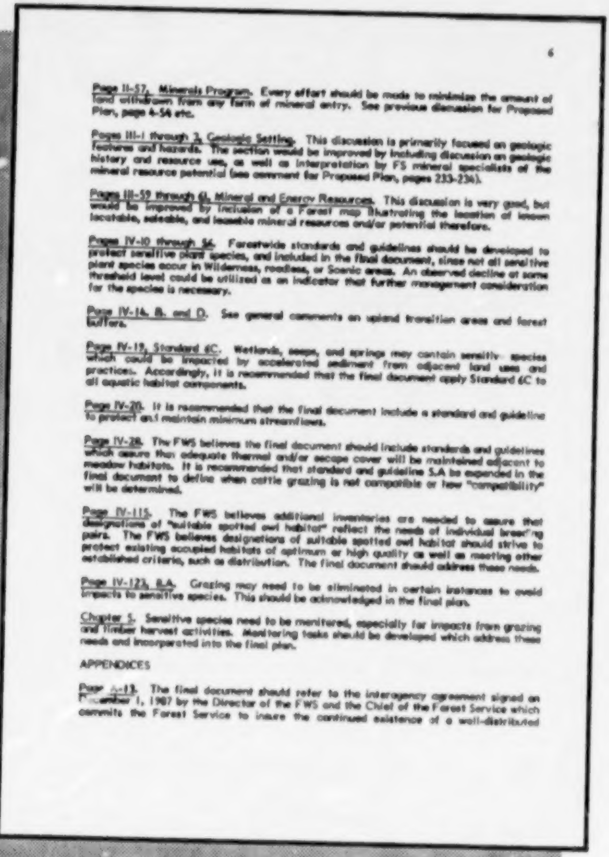
Cultural Resources

The cultural resource review that is usually conducted by the NPS was not performed for this Forest Plan. Because of heavy priority work loads, the Interagency Archeological Services (IAS) Branch has been unable to review this document. In the absence of the IAS review, we encourage the Forest to consider the comments of the State Historic Preservation Officer.

Recreation Resources

Reference is made to the Barlow Road and National Historic Trail designation. We suggest expanding the discussion to include the legislative requirements of the National Trails System Act (P.L. 90-543), as amended. The maintenance of the trail within federally administered areas is required and management objectives contained in the Oregon Trail Comprehensive Management and Use Plan state the following:

> The Oregon National Historic Trail should be managed in a manner consistent with the intent of the enabling legislation so as to achieve the following broad, long-term objectives:
>
> > All historic sites and cross-country segments both on and off Federal lands should be managed to protect and interpret their historic values. Detailed management plans for accomplishing this objective should be prepared (emphasis added) for each site and segment.



Page II-57, Minerals Program. Every effort should be made to minimize the amount of land withdrawn from any form of mineral entry. See previous discussion for Proposed Plan, page 4-56 etc.

Pages III-1 through 3, Geologic Setting. This discussion is primarily focused on geologic features and hazards. The section would be improved by including discussion on geologic history and resource use, as well as interpretation by FS mineral specialists of the mineral resource potential (see comment for Proposed Plan, pages 233-234).

Pages III-59 through 61, Mineral and Energy Resources. This discussion is very good, but would be improved by inclusion of a Forest map illustrating the location of known locatable, saleable, and leasable mineral resources and/or potential therefore.

Pages IV-10 through 56. Forestwide standards and guidelines should be developed to protect sensitive plant species, and included in the final document, since not all sensitive plant species occur in Wilderness, roadless, or Scenic areas. An observed decline at some threshold level could be utilized as an indicator that further management consideration for the species is necessary.

Page IV-14, B. and D. See general comments on upland transition areas and forest buffers.

Page IV-19, Standard 6C. Wetlands, seeps, and springs may contain sensitive species which could be impacted by accelerated sediment from adjacent land uses and practices. Accordingly, it is recommended that the final document apply Standard 6C to all aquatic habitat components.

Page IV-20. It is recommended that the final document include a standard and guideline to protect and maintain minimum streamflows.

Page IV-28. The FWS believes the final document should include standards and guidelines which assure that adequate thermal and/or escape cover will be maintained adjacent to meadow habitats. It is recommended that standard and guideline 5.A be expanded in the final document to define when cattle grazing is not compatible or how "compatibility" will be determined.

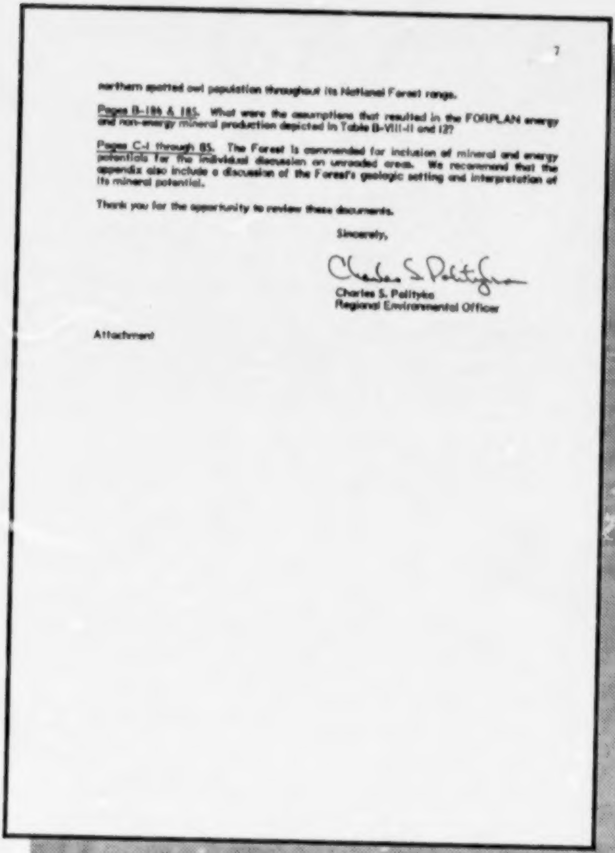
Page IV-115. The FWS believes additional inventories are needed to assure that designations of "suitable spotted owl habitat" reflect the needs of individual breeding pairs. The FWS believes designations of suitable spotted owl habitat should strive to protect existing occupied habitats of optimum or high quality as well as meeting other established criteria, such as distribution. The final document should address these needs.

Page IV-123, 8.A. Grazing may need to be eliminated in certain instances to avoid impacts to sensitive species. This should be acknowledged in the final plan.

Chapter 5. Sensitive species need to be monitored, especially for impacts from grazing and timber harvest activities. Monitoring tasks should be developed which address these needs and incorporated into the final plan.

APPENDICES

Page A-13. The final document should refer to the interagency agreement signed on December 1, 1987 by the Director of the FWS and the Chief of the Forest Service which commits the Forest Service to insure the continued existence of a well-distributed



northern spotted owl population throughout its National Forest range.

Pages B-184 & 185. What were the assumptions that resulted in the FORPLAN energy and non-energy mineral production depicted in Table B-VIII-11 and 12?

Pages C-1 through 85. The Forest is commended for inclusion of mineral and energy potentials for the individual discussion on unroaded areas. We recommend that the appendix also include a discussion of the Forest's geologic setting and interpretation of its mineral potential.

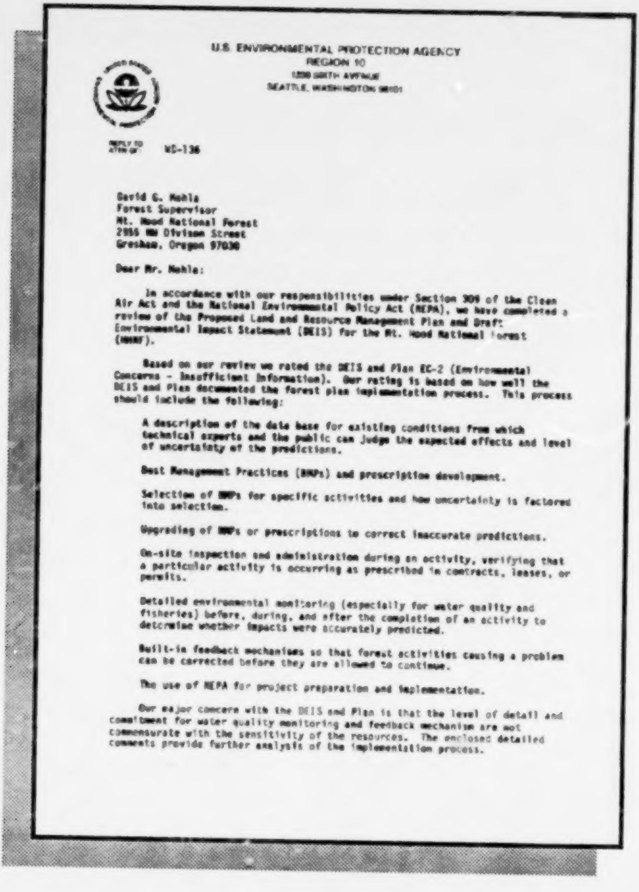
Thank you for the opportunity to review these documents.

Sincerely,

Charles S. Polityka

Charles S. Polityka
Regional Environmental Officer

Attachment



U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

REPLY TO ATTN OF: WD-136

David G. Mohla
Forest Supervisor
Mt. Hood National Forest
2955 NW Division Street
Gresham, Oregon 97030

Dear Mr. Mohla:

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), we have completed a review of the Proposed Land and Resource Management Plan and Draft Environmental Impact Statement (DEIS) for the Mt. Hood National Forest (MHNF).

Based on our review we rated the DEIS and Plan EC-2 (Environmental Concerns - Insufficient Information). Our rating is based on how well the DEIS and Plan documented the forest plan implementation process. This process should include the following:

A description of the data base for existing conditions from which technical experts and the public can judge the expected effects and level of uncertainty of the predictions.

Best Management Practices (BMPs) and prescription development.

Selection of BMPs for specific activities and how uncertainty is factored into selection.

Upgrading of BMPs or prescriptions to correct inaccurate predictions.

On-site inspection and administration during an activity, verifying that a particular activity is occurring as prescribed in contracts, leases, or permits.

Detailed environmental monitoring (especially for water quality and fisheries) before, during, and after the completion of an activity to determine whether impacts were accurately predicted.

Built-in feedback mechanisms so that forest activities causing a problem can be corrected before they are allowed to continue.

The use of NEPA for project preparation and implementation.

Our major concern with the DEIS and Plan is that the level of detail and commitment for water quality monitoring and feedback mechanism are not commensurate with the sensitivity of the resources. The enclosed detailed comments provide further analysis of the implementation process.

We have appreciated past opportunities to discuss our water quality concerns in person and plan to maintain contact as the Plan is implemented. Please feel free to contact us further as you develop your Final EIS and Plan. The contact in our office is Wayne Elson at (FTS) 399-1463.

Sincerely,

Robert S. Burd
Director, Water Division

Enclosures

cc: ODW
ODEQ
ODF
USFWS
NMFS
USFS, Region 6
USFS, Region 4
USFS, Region 1

[illegible] The nonpoint source assessment of the Oregon Department of Environmental Quality being prepared under Section 319 of the Clean Water Act should be included in this discussion of coordination of other agency management plans.

Environmental Consequences

From information provided, there is no assurance that Oregon Water Quality Standards will be met. Increases in sediment which adversely affect the fishery could exceed the anti-degradation part of Oregon's Water Quality Standards. On page IV-75 the DEIS indicates that activity-caused sediment is considered the greatest polluting material in Forest Streams. Potential increases in water temperature fall into this same category of concern. These issues are not addressed in the DEIS in terms of Oregon's Water Quality Standards and anti-degradation.

IV-3 Validation monitoring of earth flow models is discussed in the context of the effects of Alternatives D, E, F, G, H, and I. How does this relate to the implementation monitoring of landslides described in pages 5-7 to 5-8 of the Plan. If this monitoring is important to reducing the effect of management activities on earth flows it should be included in the Plan.

IV-3 Alternatives D, E, F, G, H, and I will have less effect on earth flows. What is the relative risk of earth flows according to the earth flow model?

IV-4 Monitoring can be added to the list of mitigation measures for geologic hazards are discussed here. Monitoring that includes a feedback mechanism such that management activities are modified in response to new information generated can be considered mitigation.

IV-5 The text mentions that the effectiveness of mitigation measures for earth flow effects has been demonstrated. This is significant and should be explained further. How was the relationship between earth flow and mitigation actually established?

IV-6 Since the sediment index does not include contribution of earth flows, can the earth flow model and the sediment index be combined on a watershed basis to determine overall sediment effects?

IV-12 The burning of wood collected on the forest and burned off the forest is a secondary effect. Forest land managers that provide firewood have a unique opportunity to educate the public regarding fuelwood use and air pollution through the permit process. For example, pamphlets discussing the association between wood stoves, air pollution, and health concerns, or providing tips on efficient wood stove operation, could be distributed with fuelwood permits. If appropriate literature is not readily available, we would be happy to provide examples that are being used elsewhere.

IV-24 The text indicates that the aquatic habitat condition model which is used to compare the effects of the alternatives has been prepared on a specific drainage scale. We would like to review the model with the predictions for individual drainages. This model could be used not only to compare alternatives but also to establish goals for specific drainages against which the standards and guidelines, monitoring plan priorities, and environmental assessment development can be based.

IV-24 The text states that the aquatic habitat condition model has not been validated. We note that the monitoring plan includes provision to validate habitat variables for the smolt and trout habitat capability index, however validation of the aquatic habitat condition model is not included there but is included in the information needs section. This would be important since without this validation the index ratings for the aquatic habitat condition model have little meaning in predicting absolute effects at the forest plan level and the environmental assessment project level. Is there additional conservatism factored into management activities because of this lack of this validation?

IV-24 The text does not explain what is considered the most limiting factor for fish on the MHNF and whether the aquatic habitat stability model takes this into account. This should be discussed.

IV-25 The aquatic effects estimates assume full implementation and maintenance of rehabilitation structures. The implication of this needs to be discussed. How will aquatic resources be managed if funding is not available to implement and maintain rehabilitation structures. We note that rehabilitation investments would average $200,000 to $300,000 per year. Under some circumstances the Plan may need to be changed if standards & guidelines cannot be met.

IV-27 For the preferred alternative the trends in aquatic habitat is expected to be better than predictions if the rehabilitation and enhancement measures are durable. This implies that there is uncertainty in how effective aquatic habitat enhancement measures are in the long term. The text should expand on the durability question especially in terms of the current experience on the MHNF and how it effects the extent of maintenance and costs of monitoring.

IV-29 What is the extent of the streambank erosion erosion problem due to grazing for the Fifteenmile Creek and the White River? For example how many stream miles are affected? Have these reaches been inventoried? What are the opportunities for reducing these water quality effects?

IV-33 Table IV-6 describes the common mitigation measures used with recreation, range and timber. Avoiding sensitive areas should be added to the list for range mitigation measures.

IV-32 The effectiveness of the common mitigation measures in Table IV-5 and structural measures in Table IV-7 should be explained. To what extent has validation monitoring documented the effectiveness of these measures on the MHNF?

GL-16 The definition for riparian areas should be expanded. We would recommend using the definition for riparian area utilized by the Siskiyou National Forest DEIS (Page AG-21).

PLAN

2-34 The lists of information needs appears to be complete. This list would be more useful if the items in it were prioritized. Also, a discussion is needed as how management decisions will be made in the absence of needed information. Is there built in conservatism in predicting environmental effects? What management decisions will be delayed until important information is collected?

5-19 The variability for the aquatic habitat improvement projects attainment monitoring should also include the long term durability of a project.

5-32 The unit of measure for range riparian area management should include a qualitative or quantitative measure for the condition of the riparian area.

FPA-19 Range project activity schedule should be expanded. How many allotments are there? How many need updating? What is the schedule for completing each allotment plan. This should be related to the standards and guidelines.

SUMMARY OF THE EPA RATING SYSTEM
FOR DRAFT ENVIRONMENTAL IMPACT STATEMENTS:
DEFINITIONS AND FOLLOW-UP ACTION *

Environmental Impact of the Action

LO--Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA intends to work with the lead agency to reduce these impacts.

EO--Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information

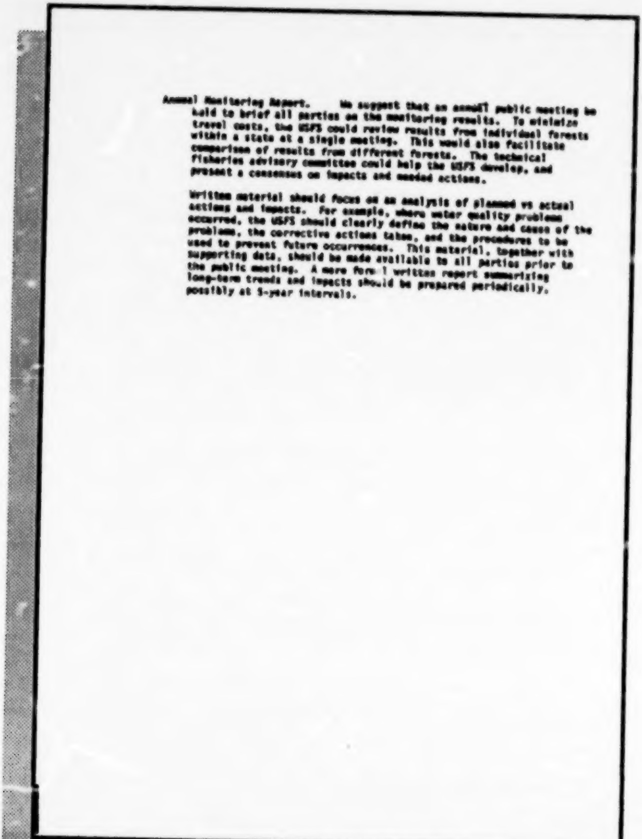
The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

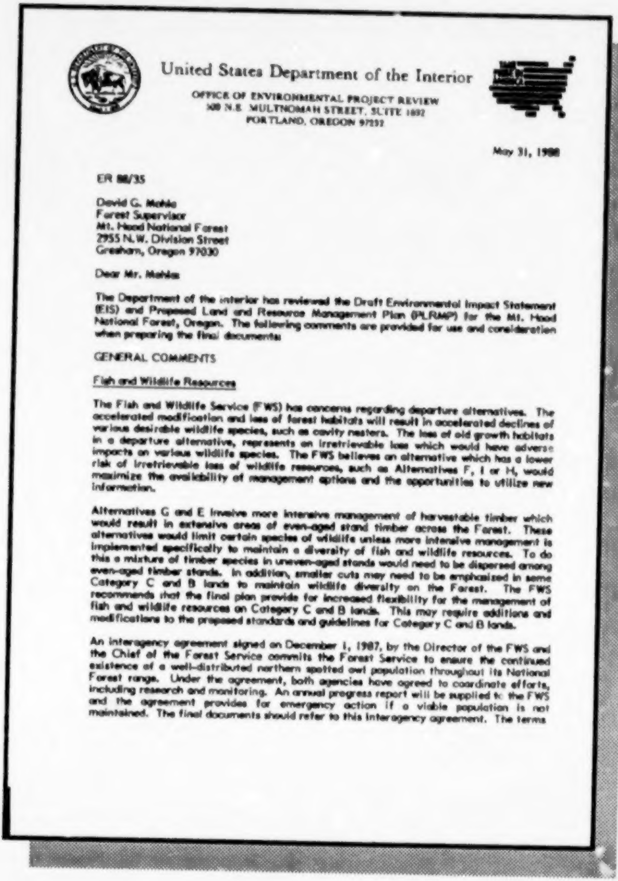
* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment

February, 1987



Annual Monitoring Report. We suggest that an annual public meeting be held to brief all parties on the monitoring results. To minimize travel costs, the USFS could review results from individual forests within a state at a single meeting. This would also facilitate comparison of results from different forests. The technical fisheries advisory committee could help the USFS develop, and present a consensus on impacts and needed actions.

Written material should focus on an analysis of planned vs actual actions and impacts. For example, where water quality problems occurred, the USFS should clearly define the nature and cause of the problems, the corrective actions taken, and the procedures to be used to prevent future occurrences. This material, together with supporting data, should be made available to all parties prior to the public meeting. A more formal written report summarizing long-term trends and impacts should be prepared periodically, possibly at 5-year intervals.



United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECT REVIEW
500 N.E. MULTNOMAH STREET, SUITE 1692
PORTLAND, OREGON 97232

May 31, 1988

ER 88/35

David G. Mohla
Forest Supervisor
Mt. Hood National Forest
2955 N.W. Division Street
Gresham, Oregon 97030

Dear Mr. Mohla:

The Department of the Interior has reviewed the Draft Environmental Impact Statement (EIS) and Proposed Land and Resource Management Plan (PLRMP) for the Mt. Hood National Forest, Oregon. The following comments are provided for use and consideration when preparing the final documents:

GENERAL COMMENTS

Fish and Wildlife Resources

The Fish and Wildlife Service (FWS) has concerns regarding departure alternatives. The accelerated modification and loss of forest habitats will result in accelerated declines of various desirable wildlife species, such as cavity nesters. The loss of old growth habitats in a departure alternative, represents an irretrievable loss which would have adverse impacts on various wildlife species. The FWS believes an alternative which has a lower risk of irretrievable loss of wildlife resources, such as Alternatives F, I or H, would maximize the availability of management options and the opportunities to utilize new information.

Alternatives G and E involve more intensive management of harvestable timber which would result in extensive areas of even-aged stand timber across the Forest. These alternatives would limit certain species of wildlife unless more intensive management is implemented specifically to maintain a diversity of fish and wildlife resources. To do this a mixture of timber species in uneven-aged stands would need to be dispersed among even-aged timber stands. In addition, smaller cuts may need to be emphasized in some Category C and B lands to maintain wildlife diversity on the Forest. The FWS recommends that the final plan provide for increased flexibility for the management of fish and wildlife resources on Category C and B lands. This may require additions and modifications to the proposed standards and guidelines for Category C and B lands.

An interagency agreement signed on December 1, 1987, by the Director of the FWS and the Chief of the Forest Service commits the Forest Service to ensure the continued existence of a well-distributed northern spotted owl population throughout its National Forest range. Under the agreement, both agencies have agreed to coordinate efforts, including research and monitoring. An annual progress report will be supplied to the FWS and the agreement provides for emergency action if a viable population is not maintained. The final documents should refer to this interagency agreement. The terms

> Land uses which adversely affect trail sites and segments should be carefully monitored and, if necessary, modified or discontinued.
>
> Regulations needed to protect markers and historic and scenic values and public use facilities from vandalism or improper use should be as unrestrictive as possible, stated in clear and readily understood language and widely disseminated.

For your information and use we have enclosed a copy of the Oregon Trail Management Plan and brochure.

Mineral Resources

In general, the discussion of geology and minerals is better than in many of the National Forest plans reviewed to date. However, the Plan lacks a definitive discussion of geologic setting, historical use, and a mineral potential map for geothermal and locatable minerals for comparison with existing or planned mineral entry withdrawals or access restrictions by proposed management alternative. The potential maps should be at the same scale as the alternative maps for ease of comparison, but due to the relative absence of minerals in the Forest, a page-size map would be acceptable.

The DEIS indicates that the Oak Grove area has the best potential for locatable minerals. According to the preferred alternative, this area is proposed to be managed as a visual resource area. This appears to be the one area of most significant mineral potential in the Forest, but there are many areas of visual resources. The Bureau of Mines recommends that the mineralized area be placed under a management formula conducive to mineral development.

We noted that the text describes the Oak Grove district as having "moderate" potential, but the definitions given in the glossary would classify it as "high" potential. Either the text or the definitions should be changed. Perhaps the Forest may prefer changing to an evaluation based on development potential such as that used by the Wallowa-Whitman Forest.

The Forest should contact the National Marine Fisheries Service to determine if notification is desired of any mineral development that would affect anadromous fish.

Land Management

The Bureau of Land Management's (BLM) Salem District Office believes there may be redundancy in BLM's and the Forest Service's spotted owl habitat areas in the Nasty Rock and Lukens Creek areas. They also believe there is inconsistency in the two agencies' visual resource management objectives in the Mt. Hood Corridor and Baty Butte areas. Contact Rich Whitely, Clackamas Area Manager in BLM's Salem District, FTS 422-5683, to schedule a coordination meeting to discuss these concerns.

SPECIFIC COMMENTS

PROPOSED LAND AND RESOURCE MANAGEMENT PLAN

Page 2-38, Geological Information Needed. The three items listed do not bear directly on geologic structure or mineral resource potential information which would appear to be

Geothermal Resource Area, suspected of being underlain by shallow thermal waters with potential direct heat application; some 40 pending or authorized oil/gas/geothermal leases; and numerous claims of record within three mining districts on or near the Forest boundaries. The Forest probably has some mineral potential associated with porphyry type deposits within Tertiary intrusives.

Page 4-2. It would seem appropriate for this section to contain a statement regarding the FS Mineral Policy.

Pages 4-4 through 7. We suggest that the 10 and 50 year condition statements include statements regarding minerals management.

Page 4-33. We suggest that the Forest provide for recreational (casual) prospecting, exploration and development, and preparation of suitable surface management stipulations. In addition, stipulations for leasing and approval conditions for plans of operation should be used to effectively control long-term impact and assure suitable reclamation.

Page 4-42, Visual Resource Management, Minerals. Since suitable quarry rock for roads is limited, it may not always be possible to pick sites within suitable haul distance that have no dominant visual character. However, use of vegetative screening and blending of contours past removal of rock material can greatly reduce future visual impact.

Pages 4-56 through 201, Minerals Management for Special Uses, Wilderness, RNA's, Key Habitat Areas, and Recreation and Education Areas. In virtually all cases minerals management calls for withdrawal from all mineral entry or seasonal use restrictions. It is suggested that planned restrictions on mineral entry be carefully weighted in light of historical activity and a determination made as to just which aspects of mineral development have a high potential for occurrence where likely conflicts would clearly impact higher value existing surface uses, and only those aspects of mineral entry or development be withdrawn or appropriate management stipulations prepared in preference to curtailing all mineral activity.

Page 4-206. What references were consulted in deriving the figures shown for Energy/Minerals and Geothermal Resources? Do they reflect an attempt to assess the Forest's mineral resource potential, even though it is not summarized elsewhere?

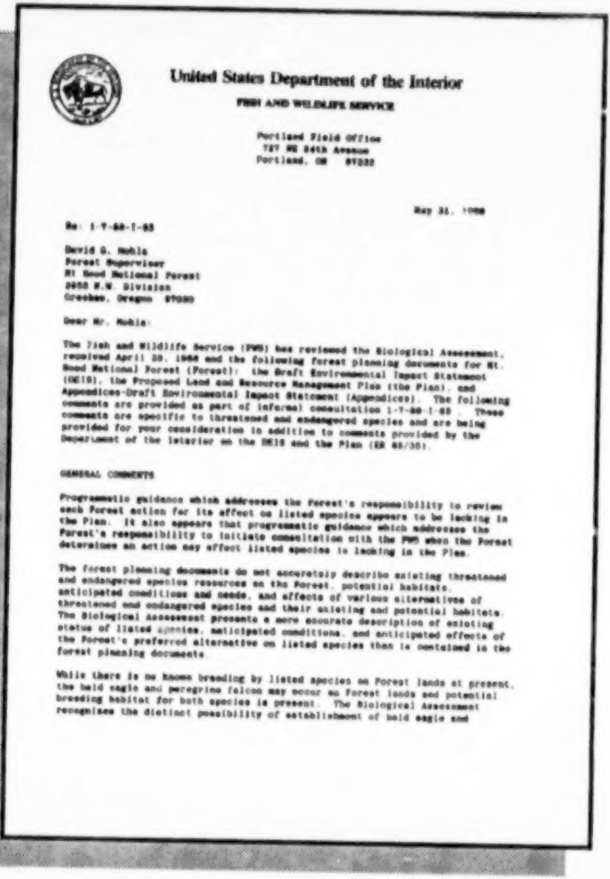
Pages 4-233 - 234. The discussion of Forest geology and minerals resources is very scant. It could be markedly improved by inclusions of a regional geologic map, map themes depicting known mining districts, geothermal resource areas, and areas defined for the mineral resource potential consistent with BLM 3031 Manual, which is used by the FS for preparation of mineral reports.

Page 5-11. We recommend that monitoring items 1.022 and 1.023 be amplified through depictions mentioned in previous comment.

Pages 5-15 and 5-17. The left-hand column headings are inappropriate.

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Page 1-6, Resources. We believe this section should include a summary on mineral resources or reference to appropriate discussion elsewhere in the document regardless of whether minerals was an identified public issue.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Portland Field Office
727 NE 24th Avenue
Portland, OR 97232

May 31, 1988

Re: 1-7-88-I-65

David G. Mohla
Forest Supervisor
Mt Hood National Forest
2955 N.W. Division
Gresham, Oregon 97030

Dear Mr. Mohla:

The Fish and Wildlife Service (FWS) has reviewed the Biological Assessment, received April 20, 1988 and the following forest planning documents for Mt. Hood National Forest (Forest): the Draft Environmental Impact Statement (DEIS), the Proposed Land and Resource Management Plan (the Plan), and Appendices-Draft Environmental Impact Statement (Appendices). The following comments are provided as part of informal consultation 1-7-88-I-65. These comments are specific to threatened and endangered species and are being provided for your consideration in addition to comments provided by the Department of the Interior on the DEIS and the Plan (ER 88/30).

GENERAL COMMENTS

Programmatic guidance which addresses the Forest's responsibility to review each Forest action for its effect on listed species appears to be lacking in the Plan. It also appears that programmatic guidance which addresses the Forest's responsibility to initiate consultation with the FWS when the Forest determines an action may affect listed species is lacking in the Plan.

The forest planning documents do not accurately describe existing threatened and endangered species resources on the Forest, potential habitats, anticipated conditions and needs, and effects of various alternatives of threatened and endangered species and their existing and potential habitats. The Biological Assessment presents a more accurate description of existing status of listed species, anticipated conditions, and anticipated effects of the Forest's preferred alternative on listed species than is contained in the forest planning documents.

While there is no known breeding by listed species on Forest lands at present, the bald eagle and peregrine falcon may occur on Forest lands and potential breeding habitat for both species is present. The Biological Assessment recognizes the distinct possibility of establishment of bald eagle and peregrine falcons on Forest lands as recovery efforts continue. Since there is a fair possibility for the establishment of breeding habitat for listed species on Forest lands within the next decade, the FWS believes the Forest should plan for actions which will be taken to avoid impacts to listed species during this planning cycle. Accordingly, the forest planning documents should provide more specific detail regarding inventory, survey, and monitoring needs for listed species.

With the possibility for establishment of listed species on Forest lands, there is a need for routine, preferably annual, inventories of potential habitats to determine presence and level of use at potential bald eagle, (i.e. Timothy Lake) and peregrine falcon habitats. Once presence is established, a systematic approach to determining the level of use and/or identification of key use areas is often needed. Such inventories need to be included in the Forest's monitoring plan. These inventories are needed to assure that Forest staff have adequate baseline information upon which to determine effects to listed species in the review of potential Forest actions. Lack of adequate information could result in failure to determine presence of listed species on Forest lands. This may result in unexpected conflicts on timber sales or other planned Forest actions which could result in the need to formally consult with the FWS. Survey, inventory and monitoring needs should be identified and incorporated into the Forest's monitoring plan with adequate funding.

A wide range of Forest actions and activities have the potential to affect listed species and/or their known and potential breeding, wintering, and foraging habitats. To further the conservation of listed species, special management consideration is needed during the current planning cycle to further identify, preserve, and maintain essential habitat components in potential habitats from irreversible and irretrievable Forest actions. The FWS encourages the Forest to cooperate with agencies and organizations involved with the recovery of listed species and define additional management directions within its authorities to promote the conservation of listed species.

Monitoring of threatened, endangered, and sensitive animal species on the Forest appears to be lacking in the Plan. Therefore, a well defined monitoring plan with species specific tasks needs to be developed. Such a monitoring plan should indicate whether or not programmatic guidance for the review of Forest actions is being effectively implemented, track species status on Forest lands, identify when additional conservation measures need to be implemented for listed species, and assess the effectiveness of implemented conservation measures.

Programmatic guidance for the review of Forest actions on sensitive plant species has been incorporated into the DEIS and appears to be adequate. However, monitoring and standards and guidelines for federal candidate or sensitive plant species needs to be developed and incorporated into the Plan. The FWS encourages the Forest to define additional management directions to conserve Federal candidate species.

SPECIFIC COMMENTS

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Chapter III. The DEIS does not adequately describe the status of threatened and endangered species on the Forest, ongoing activities, and anticipated needs and conditions which should be taken into consideration for the next decade. Not all potential bald eagle habitats identified by the Oregon State University Cooperative Wildlife Research Unit have been recognized in the DEIS.

Page III-23 to 25: Programmatic guidance for the review of Forest actions with respect to effects on sensitive plants is provided. However, it should be noted that the FWS may be contacted for technical assistance on candidate plant issues.

Page III-32, (2) Endangered species: Peregrine falcon re-introduction efforts should be coordinated with Oregon Department of Fish and Wildlife and in consultation with the FWS. The FWS believes an increase in use by peregrine falcons will be noted in the near future as recovery efforts in Oregon progress. Accordingly, the Forest should conduct annual inventories to determine presence at the potential and historic peregrine falcon eyries and include such inventories in it's monitoring plan. The availability of potential prey for the peregrine should be maintained.

Logging, recreation, and other potentially disturbing activities in the vicinity of peregrine falcon use areas should be given careful review to avoid actions which may adversely affect listed species. This section should address anticipated needs to monitor occupation, productivity, and potential disturbances in historic and potential eyrie sites.

Page III-32, (2) Endangered species: While the FWS is not aware of active breeding territories or communal night roosts for bald eagles on the Forest at this time, nine potential bald eagle territories have been identified on the Forest. This section should be changed to accurately reflect these potential habitats which have been identified by the Oregon State University Cooperative Wildlife Research Unit for the bald eagle.

Chapter IV: An evaluation of effects of various alternatives on Federal candidate species and identified potential habitats for bald eagles is lacking and should be provided. This evaluation should explain how each alternative will assure that existing and potential habitats for Federally listed threatened and endangered species will be conserved. What, if any, differences there will be in the management of listed species between alternatives should be explained. To further the recovery of bald eagles, the FWS recommends that potential breeding and wintering habitat be protected from irreversible or irretrievable actions which may adversely affect listed species or their recovery. Special management consideration for potential or suspected habitats should be provided until inventories or monitoring of such areas is sufficient to determine that listed species are not present and that the loss of potential habitat will not adversely affect the attainment of recovery goals for the species. All identified potential habitats should be recognized as needing additional management consideration to assure that essential habitat characteristics are maintained to support listed species.

THE PLAN

Page 2-12: The statement that no Federally listed threatened or endangered species are known to live on the Forest is misleading (See General Comments). Bald eagles may occur as migrants and overwintering residents. They have been observed in areas along the Columbia River, Timothy Lake, Clackamas River Drainage, and Pine Creek Reservoir. Peregrine falcons are being reintroduced into the Columbia Gorge. While no breeding by either species is known to occur on Forest lands at this time, breeding habitats do exist for both species.

Page 4-30 to 4-86. Forestwide standards and guidelines should be developed for sensitive plant species since not all sensitive plant species occur in Wilderness, roadless, or Scenic areas. An observed decline at some threshold level may be utilized as an indicator that further management consideration for the species may be necessary. A 5 percent decline among known Forest populations has been utilized by some Forests as a threshold level.

Page 4-18 to 4-19. Include a standard and guideline to maintain sensitive species.

Page 4-28, Wildlife: The management prescriptions and directives are too general. More detailed management prescriptions should be developed to conserve the integrity of existing and potential habitats for bald eagles and peregrine falcons. Special management consideration may be needed for listed species which are not addressed in forest planning documents. For instance, do proposed standards and guidelines and minimum management requirements for proposed management areas allow adequate flexibility for developing species-specific management prescriptions which may be needed to conserve listed species and their habitats? If so, direction and funding to develop site-specific management plans for threatened and endangered species should be provided. The periodic review of site-specific management plans should be incorporated into the Forest's monitoring plan to assure prescriptions identified therein are being implemented.

Page 4-88, Wildlife 1.: More specific programmatic guidance for the review of Forest actions for impacts to listed and candidate wildlife species and their existing and potential habitats needs to be provided and referenced. (i.e. Forest Service Manual 2670). In addition, programmatic guidance which addresses the Forest's responsibility to initiate consultation with the FWS when the Forest determines an action may affect listed species also appears to be lacking. Programmatic guidance directing when consultation is required with the FWS should be clearly outlined. Standard and guideline 1.B. should be modified to indicate that threatened, endangered or sensitive species, and identified potential habitat for these species, shall not be adversely affected. All potential bald eagle habitats are not identified in The Plan. Providing adequate potential habitat is essential to recovery because potential habitat is a prerequisite for population expansion. Existing and potential habitats need to be identified in The Plan. There needs to be a more detailed identification of essential habitat characteristics within identified potential habitat. These essential habitat characteristics need to be conserved to maintain the integrity of potential habitat sites. Standards and guidelines for protection of cliff sites and foraging opportunities for guidance in the Biological Assessment appears to be adequate. However, areas which need careful review and monitoring include effects to potential bald eagle habitat, potential eyrie sites, and potential or suspected foraging areas from Forest actions or permitted uses.

SUMMARY COMMENTS

Programmatic guidance for listed species has not been provided in sufficient detail in the Plan to assure that a review of each Forest action will be conducted in a manner consistent with the intent of the ESA of 1973, as amended, and its requirements. The Forest's Biological Assessment does address programmatic guidance. However, to assure consistency with requirements under the ESA of 1973, as amended, programmatic guidance addressing the Forest's responsibilities to review actions and consult with the Fish and Wildlife Service needs to be clearly provided or referenced in the Plan. In addition, the Forest's monitoring and evaluation program does not include adequate monitoring of listed and candidate threatened and endangered species on Forest lands. Without an adequate monitoring program to assure that the programmatic guidance and management prescriptions for listed species are being implemented effectively, the FWS cannot concur with a determination of no effect to listed species. A monitoring plan for candidate and/or sensitive species needs to be developed to assure that Forest actions are maintaining viable populations and are not jeopardizing the continued existence of these species.

The FWS recommends that Mt Hood National Forest: 1) consult with the FWS informally on recovery actions, site-specific management plans, and other actions which it determines may affect listed species; 2) conduct adequate pre-project inventories to identify potential impacts to threatened and endangered species; 3) provide consistent programmatic guidance, or Forest-wide standards and guidelines in the Forest Plan, which clearly outline the Forest's responsibilities to consult with the FWS when it has determined on a project by project basis that an action may affect a listed species; and 4) identify and fund species specific monitoring and inventory tasks within the Forest's monitoring program. Specific monitoring and inventory tasks which FWS recommends the Forest address in the Plan are:

1) Identify and maintain potential habitat for bald eagles.

2) Develop management prescriptions to maintain essential habitat characteristics in these areas.

3) Conduct annual inventories to determine occupation in potential sites and productivity in occupied sites, and

4) Develop site-specific management plans within an identified time frame as occupation by listed species is determined or key breeding and/or wintering habitat is identified.

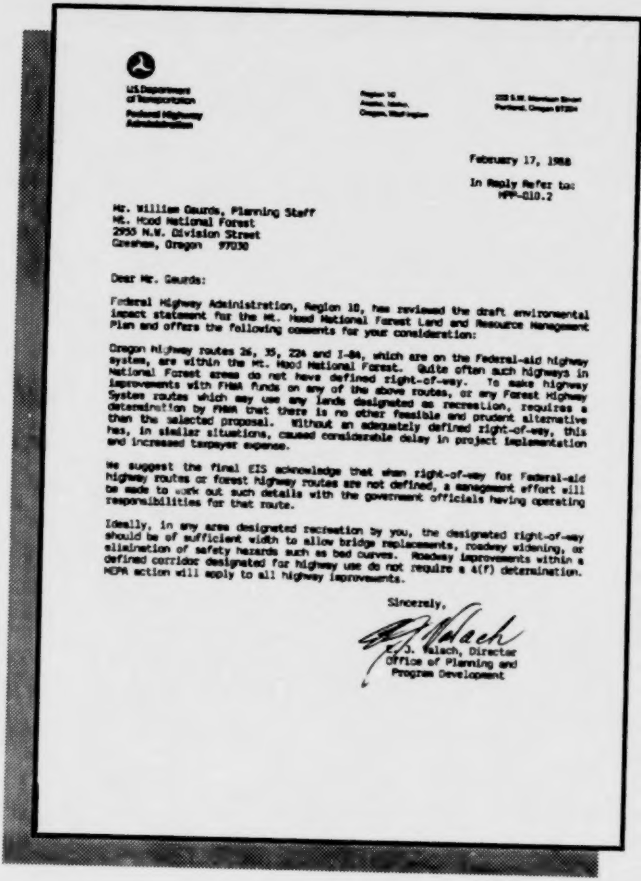
Provided that the aforementioned recommendations are incorporated into your Final Forest Plan and Biological Assessment, the FWS would feel reasonably assured that consultation with the FWS will take place at appropriate planning and decision points to effectively avoid adverse effects to listed species wherever possible. Obviously, on those specific projects in which adverse effects to listed species is likely or cannot be avoided, the Forest Service would still be required to initiate formal consultation.

The FWS encourages the Forest to continue to develop and implement conservation measures which will promote the recovery of listed species and maintain sensitive species on Forest lands.

Sincerely,

Russell D. Peterson
Field Supervisor

cc: FWE-SE
OPO-SE
FS, R6, Attn: Phil Lee
OSU, Coop Unit, Attn: Robert Anthony
ODFW, Non-game, Attn: Bill Haight
WDW, Non-game, Attn: Dave Anderson/Kelly McAllister



U.S. Department
of Transportation
Federal Highway
Administration

Region 10
Alaska, Idaho,
Oregon, Washington

222 S.W. Morrison Street
Portland, Oregon 97204

February 17, 1988

In Reply Refer to:
HPP-010.2

Mr. William Gaurds, Planning Staff
Mt. Hood National Forest
2955 N.W. Division Street
Gresham, Oregon   97030

Dear Mr. Gaurds:

Federal Highway Administration, Region 10, has reviewed the draft environmental impact statement for the Mt. Hood National Forest Land and Resource Management Plan and offers the following comments for your consideration:

Oregon highway routes 26, 35, 224 and I-84, which are on the Federal-aid highway system, are within the Mt. Hood National Forest. Quite often such highways in National Forest areas do not have defined right-of-way. To make highway improvements with FHWA funds on any of the above routes, or any Forest Highway System routes which may use any lands designated as recreation, requires a determination by FHWA that there is no other feasible and prudent alternative than the selected proposal. Without an adequately defined right-of-way, this has, in similar situations, caused considerable delay in project implementation and increased taxpayer expense.

We suggest the final EIS acknowledge that when right-of-way for Federal-aid highway routes or forest highway routes are not defined, a management effort will be made to work out such details with the government officials having operating responsibilities for that route.

Ideally, in any area designated recreation by you, the designated right-of-way should be of sufficient width to allow bridge replacements, roadway widening, or elimination of safety hazards such as bad curves. Roadway improvements within a defined corridor designated for highway use do not require a 4(f) determination. NEPA action will apply to all highway improvements.

Sincerely,

E J Valach

E. J. Valach, Director
Office of Planning and
Program Development

Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

[illegible] AJ

Forest Planner
Mt. Hood National Forest
2955 NW Division Street
Gresham, OR 97030

Dear Sir:

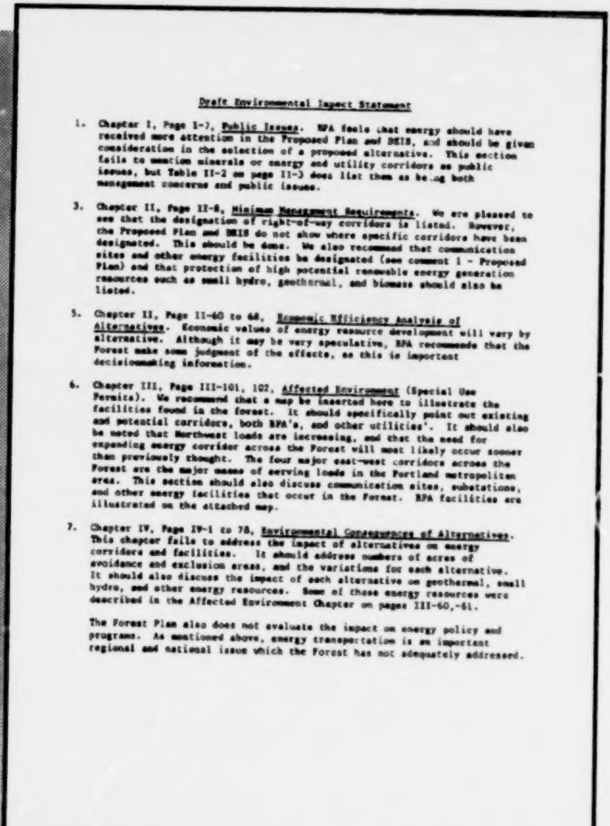
Bonneville Power Administration (BPA) has reviewed the Proposed Land and Resource Management Plan and DEIS for Mt. Hood National Forest and offer the following comments.

Energy Corridors and Energy Resources
In reviewing the Land and Resource Management Plan and DEIS it is not possible to determine specifically how Forest standards, guidelines, and alternatives would affect existing energy corridors and resources particularly biomass, hydro and geothermal. Four major BPA transmission line corridors cross the Mt. Hood National Forest. Within these corridors are six 500-kV and four 230-kV transmission lines which serve the Portland area and most of the Willamette Valley. Although there are no current plans for additional facilities, there most likely will be a need in the future. Therefore it is important that the explicit provisions for managing existing transmission corridors as well as providing for future corridors be included in the Plan and EIS.

Fish Habitat Enhancement Projects
BPA has completed, ongoing, and planned fish habitat enhancement projects located in the Mt. Hood National Forest. These projects were implemented by Mt. Hood National forest and funded by BPA. Land use activities allowed within the Forest, including logging and grazing may adversely impact upon fish enhancement efforts. For that reason we believe it to be counterproductive to allow activities that adversely impact fish production in areas where habitat enhancement work has occurred or is planned. The Mt. Hood National Forest should consider BPA's fish habitat enhancement projects when selecting an alternative and when implementing the selected alternative.

Transmission Line Access
BPA needs to continued the ability to maintain transmission lines and use access roads when needed. This need should be recognized in the Forest Plan.

Celebrating the U.S. Constitution Bicentennial — 1787-1987



Draft Environmental Impact Statement

1. Chapter I, Page I-7, Public Issues. BPA feels that energy should have received more attention in the Proposed Plan and DEIS, and should be given consideration in the selection of a proposed alternative. This section fails to mention minerals or energy and utility corridors as public issues, but Table II-2 on page II-3 does list them as being both management concerns and public issues.

3. Chapter II, Page II-8, Minimum Management Requirements. We are pleased to see that the designation of right-of-way corridors is listed. However, the Proposed Plan and DEIS do not show where specific corridors have been designated. This should be done. We also recommend that communication sites and other energy facilities be designated (see comment 1 - Proposed Plan) and that protection of high potential renewable energy generation resources such as small hydro, geothermal, and biomass should also be listed.

5. Chapter II, Page II-60 to 68, Economic Efficiency Analysis of Alternatives. Economic values of energy resource development will vary by alternative. Although it may be very speculative, BPA recommends that the Forest make some judgment of the effects, as this is important decisionmaking information.

6. Chapter III, Page III-101, 102, Affected Environment (Special Use Permits). We recommend that a map be inserted here to illustrate the facilities found in the forest. It should specifically point out existing and potential corridors, both BPA's, and other utilities'. It should also be noted that Northwest loads are increasing, and that the need for expanding energy corridor across the Forest will most likely occur sooner than previously thought. The four major east-west corridors across the Forest are the major means of serving loads in the Portland metropolitan area. This section should also discuss communication sites, substations, and other energy facilities that occur in the Forest. BPA facilities are illustrated on the attached map.

7. Chapter IV, Page IV-1 to 78, Environmental Consequences of Alternatives. This chapter fails to address the impact of alternatives on energy corridors and facilities. It should address numbers of acres of avoidance and exclusion areas, and the variations for each alternative. It should also discuss the impact of each alternative on geothermal, small hydro, and other energy resources. Some of these energy resources were described in the Affected Environment Chapter on pages III-60,-61.

The Forest Plan also does not evaluate the impact on energy policy and programs. As mentioned above, energy transportation is an important regional and national issue which the Forest has not adequately addressed.

Comments relating to BPA's Anadromous Fish Habitat Enhancement projects

BPA has funded, is currently funding or plans to fund a number of anadromous fish habitat enhancement projects ont he Mt. Hood National Forest within the Clackamas, Hood River, and Fifteenmile subbasins including:

Hood River Subbasin - West Fork Hood River, Lake Branch Creek
Clackamas Subbasin - Fish Creek, Collawash Creek, Hot Springs Fork, Oak Grove Fork, Norhorn Creek, Pansy Creek
Fifteenmile Creek - Fifteenmile Creek, Ramsey Creek, Fivemile Creek, Eightmile Creek

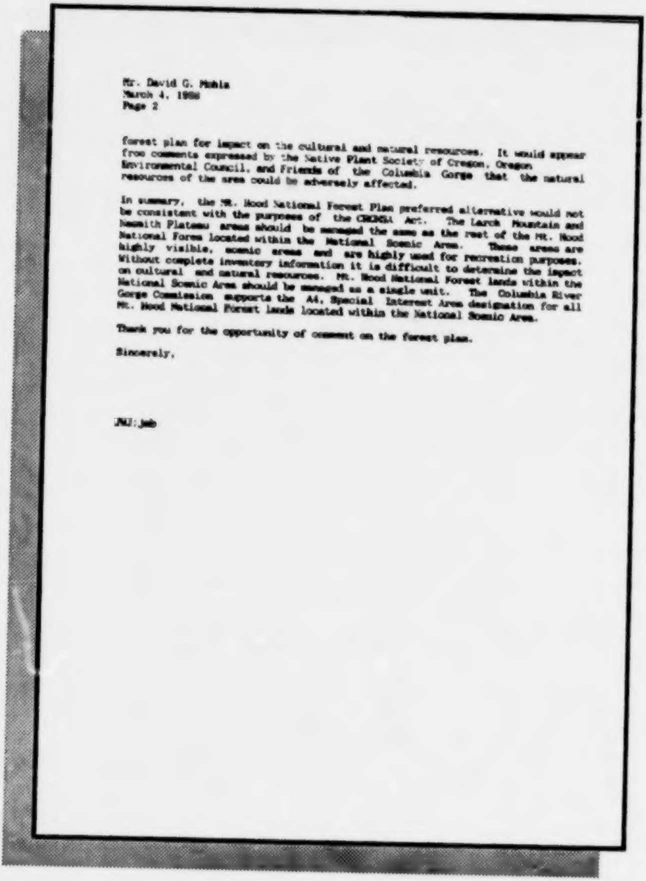
BPA is also funding or planning to fund other fish habitat enhancement projects on private owned land in the Mt. Hood National Forest including:

Fifteenmile Creek Subbasin - Fifteenmile Creek, Eightmile Creek, Ramsey Creek, Dry Creek.

These projects are described in the: Clackamas/Hood River Habitat Enhancement Project 1988-1992 Implementation Plan developed by the Mt. Hood National Forest and Fifteen mile Basin Fish Habitat Improvement Implementation Plan developed jointly by the Mt. Hood National Forest, Oregon Department of Fish and Wildlife, and Confederated Tribes of Warm Springs.

The projects will be implemented under Measure 703(c) and Action Item 4.2 of the 1987 Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program (Program). These projects represent a total expenditure of approximately $4,200,000 through Fiscal year 1992.

Land use activities on the Forest within the watersheds of any completed, ongoing, or proposed BPA funded habitat enhancement project may increase water temperatures and sediment loading and reduce summer streamflow, with a subsequent reduction in fish production in the affected streams. Logging and grazing in riparian zones may also have an adverse impact on fish production by reducing shade, streambank stability, and input of woody debris to the streams. Any further reduction in fish production in the watersheds of completed, ongoing, or proposed project sites would be counterproductive to BPA's anadromous fish enhancement efforts.



Mr. David G. Mohla
March 4, 1988
Page 2

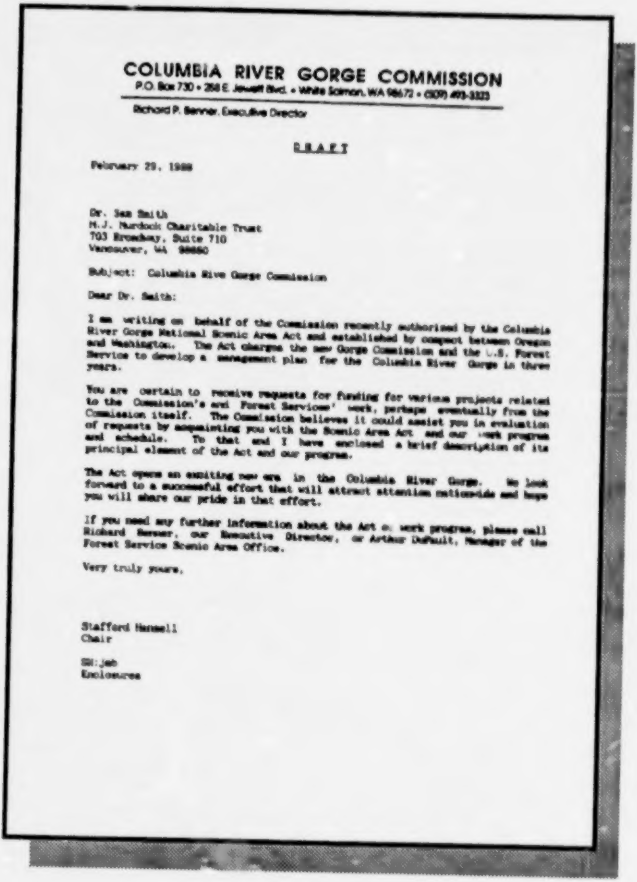
forest plan for impact on the cultural and natural resources. It would appear from comments expressed by the Native Plant Society of Oregon, Oregon Environmental Council, and Friends of the Columbia Gorge that the natural resources of the area could be adversely affected.

In summary, the Mt. Hood National Forest Plan preferred alternative would not be consistent with the purposes of the CRGNSA Act. The Larch Mountain and Nesmith Plateau areas should be managed the same as the rest of the Mt. Hood National Forest located within the National Scenic Area. These areas are highly visible, scenic areas and are highly used for recreation purposes. Without complete inventory information it is difficult to determine the impact on cultural and natural resources. Mt. Hood National Forest lands within the National Scenic Area should be managed as a single unit. The Columbia River Gorge Commission supports the A4, Special Interest Area designation for all Mt. Hood National Forest lands located within the National Scenic Area.

Thank you for the opportunity of comment on the forest plan.

Sincerely,

JNJ:jmb



COLUMBIA RIVER GORGE COMMISSION
P.O. Box 730 • 288 E. Jewett Blvd. • White Salmon, WA 98672 • (509) 493-3323

Richard P. Benner, Executive Director

D R A F T

February 29, 1988

Dr. Sam Smith
M.J. Murdock Charitable Trust
703 Broadway, Suite 710
Vancouver, WA 98660

Subject: Columbia Rive Gorge Commission

Dear Dr. Smith:

I am writing on behalf of the Commission recently authorized by the Columbia River Gorge National Scenic Area Act and established by compact between Oregon and Washington. The Act charges the new Gorge Commission and the U.S. Forest Service to develop a management plan for the Columbia River Gorge in three years.

You are certain to receive requests for funding for various projects related to the Commission's and Forest Services' work, perhaps eventually from the Commission itself. The Commission believes it could assist you in evaluation of requests by acquainting you with the Scenic Area Act and our work program and schedule. To that end I have enclosed a brief description of its principal element of the Act and our program.

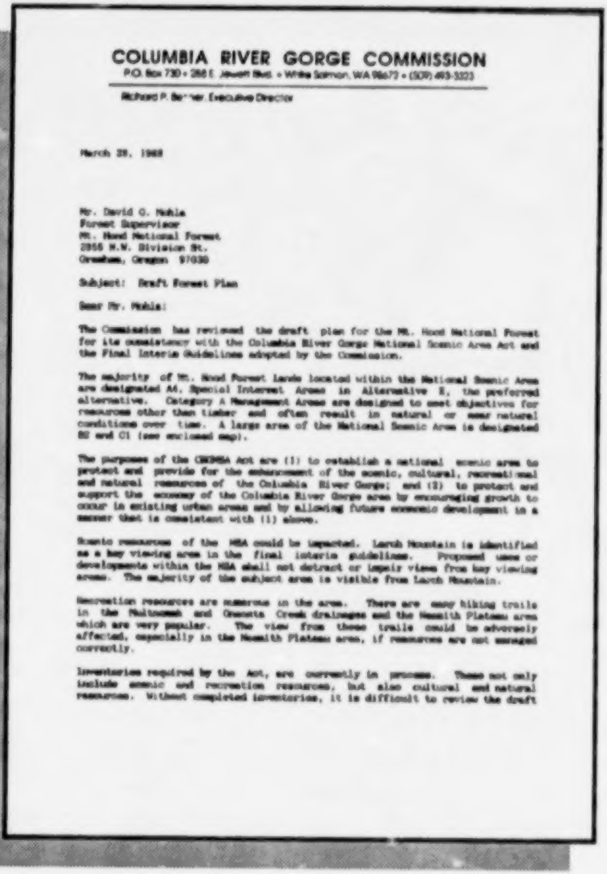
The Act opens an exciting new era in the Columbia River Gorge. We look forward to a successful effort that will attract attention nationwide and hope you will share our pride in that effort.

If you need any further information about the Act o. work program, please call Richard Benner, our Executive Director, or Arthur DuFault, Manager of the Forest Service Scenic Area Office.

Very truly yours,

Stafford Hansell
Chair

SH:jab
Enclosures



COLUMBIA RIVER GORGE COMMISSION
P.O. Box 730 • 288 E. Jewett Blvd. • White Salmon, WA 98672 • (509) 493-3323

Richard P. Benner, Executive Director

March 28, 1988

Mr. David G. Mohla
Forest Supervisor
Mt. Hood National Forest
2955 N.W. Division St.
Gresham, Oregon 97030

Subject: Draft Forest Plan

Dear Mr. Mohla:

The Commission has reviewed the draft plan for the Mt. Hood National Forest for its consistency with the Columbia River Gorge National Scenic Area Act and the Final Interim Guidelines adopted by the Commission.

The majority of Mt. Hood Forest lands located within the National Scenic Area are designated A4, Special Interest Areas in Alternative E, the preferred alternative. Category A Management Areas are designed to meet objectives for resources other than timber and often result in natural or near natural conditions over time. A large area of the National Scenic Area is designated B2 and C1 (see enclosed map).

The purposes of the CRGNSA Act are (1) to establish a national scenic area to protect and provide for the enhancement of the scenic, cultural, recreational and natural resources of the Columbia River Gorge; and (2) to protect and support the economy of the Columbia River Gorge area by encouraging growth to occur in existing urban areas and by allowing future economic development in a manner that is consistent with (1) above.

Scenic resources of the NSA could be impacted. Larch Mountain is identified as a key viewing area in the final interim guidelines. Proposed uses or developments within the NSA shall not detract or impair views from key viewing areas. The majority of the subject area is visible from Larch Mountain.

Recreation resources are numerous in the area. There are many hiking trails in the Multnomah and Oneonta Creek drainages and the Nesmith Plateau area which are very popular. The view from these trails could be adversely affected, especially in the Nesmith Plateau area, if resources are not managed correctly.

Inventories required by the Act, are currently in process. These not only include scenic and recreation resources, but also cultural and natural resources. Without completed inventories, it is difficult to review the draft forest plan for impact on the cultural and natural resources. However, it does appear that the natural resources of the area could be adversely affected.

In summary, the Mt. Hood National Forest Plan preferred alternative as it relates to the Columbia River Gorge National Scenic Area would not be consistent with the purposes of the CRGNSA Act. The Columbia River Gorge Commission believes that the Larch Mountain and Nesmith Plateau areas should be managed the same as the rest of the Mt. Hood National Forest located within the National Scenic Area. These areas are highly visible, scenic areas and are extensively used for recreation purposes. Without complete inventory information it is difficult to determine the impact on cultural and natural resources. The Columbia River Gorge Commission believes that Mt. Hood National Forest lands within the National Scenic Area should be managed as a single unit. The Commission supports the A4, Special Interest Area designation for all Mt. Hood National Forest lands located within the National Scenic Area.

Thank you for the opportunity of comment on the forest plan.

Sincerely,

Stafford Hansell
Chairman

JMJ:jmb

peregrine falcons should be developed. The development of site-specific management plans can be utilized to provide specific direction for actions designed to maintain and enhance known and/or identified habitat for listed species. Such site-specific management plans should take precedence over Management Area standards and guidelines. Cooperation with the Oregon Department of Fish and Wildlife and other experts and organizations involved with recovery activities is encouraged. Consultation with this Service is required prior to implementation of any site-specific management plan designed to promote conservation of listed species.

Page 4-26, Wildlife 1.: Level of use by bald eagles of winter habitat may need further identification on Forest lands, such as in the Clackamas Drainage, Pine Creek Reservoir, or Timothy Lake. The Pacific State Bald Eagle Recovery Plan identifies stable or increasing winter populations of bald eagle as one of its requirements before delisting can occur. Therefore, long-term monitoring of known winter use areas on an annual basis is needed. This monitoring should be part of a coordinated regional effort and is thus somewhat different from the peak use mid-winter count currently being coordinated with the Oregon Department of Fish and Wildlife. Monitoring needs for bald eagles should be clearly identified in the Forest's monitoring plan.

Page 4-26, Wildlife 1.B.: Item B does not provide sufficient guidance on how impacts are to be avoided. In addition to programmatic guidance to address Forest responsibilities under Section 7 of the Endangered Species Act (ESA), Recovery Plans developed by the Fish and Wildlife Service offer additional guidance for listed species. Recovery Plans should be referenced. Cooperation with Oregon Department of Fish and Wildlife and other experts and organizations involved in the recovery of listed species should also be supported and noted. The Pacific Bald Eagle Recovery Plan emphasizes the need to develop site-specific management plans. Such plans should be developed within a specified time frame as the presence of listed species is established on Forest lands. Management prescriptions contained within site-specific management plans should take precedence over other Management Area prescriptions for Category A, B, and C lands.

Page 4-26, Wildlife 1.C.: Item C should include the requirement for consultation with the FWS on any project which Forest biologists have determined may affect threatened or endangered species.

Page 4-26, Wildlife 1.G.: In Item G, the words "which are likely to impact" should be changed to "which may affect".

Page 4-45. Include a standard and guideline to maintain sensitive species.

Page 4-26, Wildlife 2. The Forest may consider additional conservation measures within its authorities to further the intent of the ESA of 1973, as amended. The FWS encourages the Forest to identify additional measures which will promote the conservation of listed and candidate species.

Page 4-123. 8.A. Grazing may need to be eliminated in certain instances to avoid impacts to sensitive species. This should be acknowledged.

Page 5-7 to 5-40: A monitoring plan for listed threatened and endangered species is lacking, and therefore needs to be developed. The monitoring tasks for listed species should be species specific. Tasks which need to be addressed include the following:

1) Conduct pre-project habitat inventories.

2) Identify and maintain potential habitats.

3) Inventories to determine occupation of potential habitats by peregrine falcons and bald eagles.

4) Conduct long-term population trend and productivity surveys, or cooperate with the Oregon Department of Fish and Wildlife, Oregon Cooperative Wildlife Research Unit, Oregon Eagle Foundation, Oregon Natural Heritage Program and the Peregrine Fund, in their efforts to obtain long-term population trend and productivity data, and pursuit of conservation programs for listed and candidate species.

5) Monitor potential disturbance factors and food availability, and

6) Develop site-specific management plans. (See comments DEIS, page III-83; The Plan 4-86)

Chapter 5. A monitoring plan for sensitive species is lacking. Sensitive species on Forest land needs to be monitored to assure viable populations are being maintained. Impacts from grazing and timber harvest activities particularly need to be monitored closely.

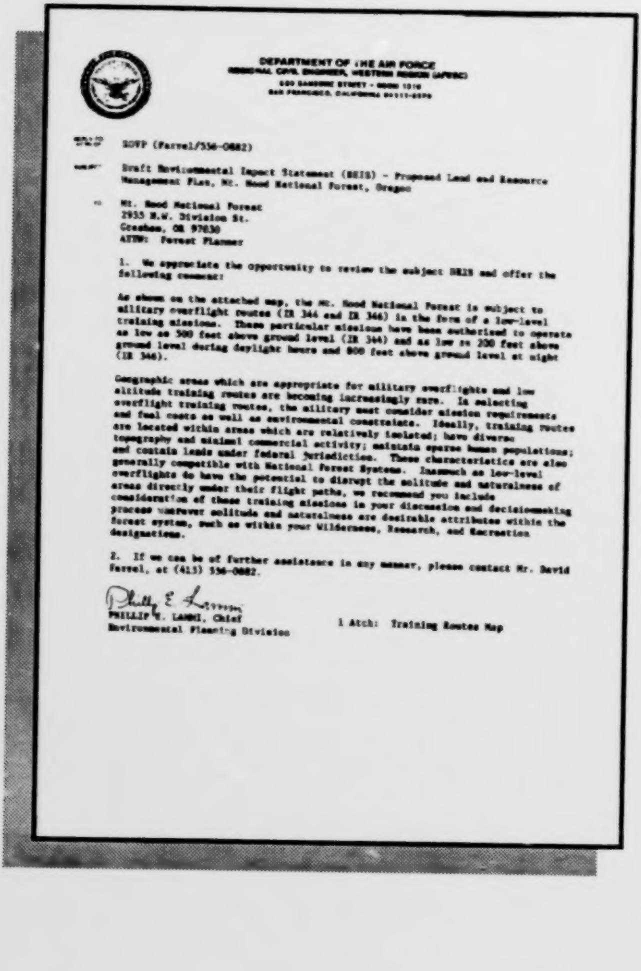
APPENDICES

Page A-13: An interagency agreement signed on December 1, 1987 by the Director of the FWS and the Chief of the Forest Service commits the Forest Service to insure the continued existence of a well-distributed northern spotted owl population throughout its National Forest range. Under the agreement, both agencies have agreed to coordinate efforts, including research and monitoring. An annual progress report will be supplied to the FWS and the agreement provides for emergency action if a viable population is not maintained. The final documents should refer to this interagency agreement and provide assurance that terms of the agreement will be adhered to.

Page G-44, Item 5.a. Threatened and Endangered Species: The statement that there are no threatened and endangered species on the Forest is in error. Peregrine falcon recovery activities have been taking place within the Columbia Gorge. Bald eagles have been observed in the Gorge and at Timothy Lake, although nesting has not been documented to date.

BIOLOGICAL ASSESSMENT

The Biological Assessment implies that there will be an on-going case-by-case review of projects and consultation with the FWS on actions which may affect listed species. The FWS supports this approach, but believes similar programmatic guidance needs to be clearly outlined in The Plan. Programmatic



DEPARTMENT OF THE AIR FORCE
REGIONAL CIVIL ENGINEER, WESTERN REGION (AFRCE)
630 SANSOME STREET - ROOM 1316
SAN FRANCISCO, CALIFORNIA 94111-[illegible]

REPLY TO ATTN OF: ROVP (Farvel/556-0882)

SUBJECT: Draft Environmental Impact Statement (DEIS) - Proposed Land and Resource Management Plan, Mt. Hood National Forest, Oregon

TO: Mt. Hood National Forest
2955 N.W. Division St.
Gresham, OR 97030
ATTN: Forest Planner

1. We appreciate the opportunity to review the subject DEIS and offer the following comment:

As shown on the attached map, the Mt. Hood National Forest is subject to military overflight routes (IR 344 and IR 346) in the form of a low-level training missions. These particular missions have been authorized to operate as low as 500 feet above ground level (IR 344) and as low as 200 feet above ground level during daylight hours and 800 feet above ground level at night (IR 346).

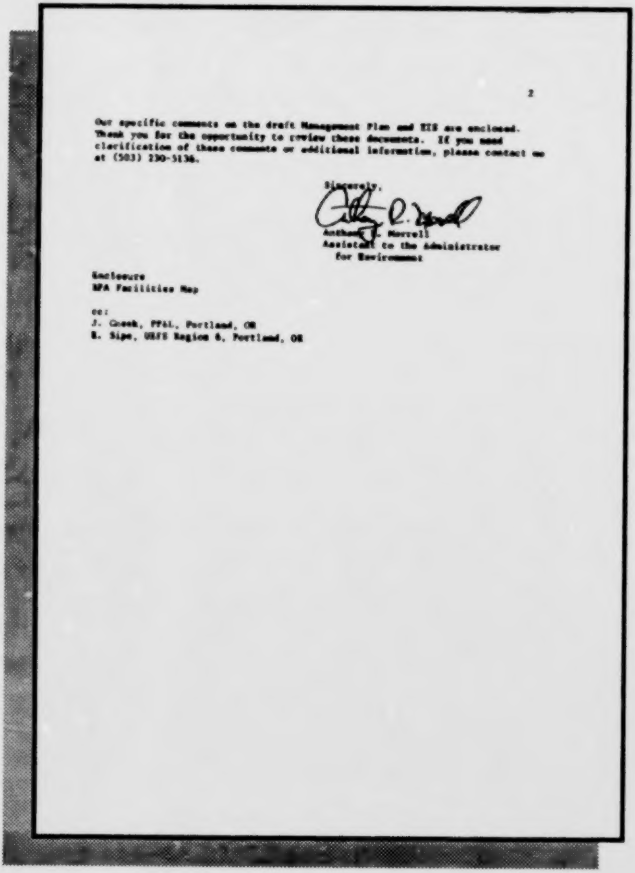
Geographic areas which are appropriate for military overflights and low altitude training routes are becoming increasingly rare. In selecting overflight training routes, the military must consider mission requirements and fuel costs as well as environmental constraints. Ideally, training routes are located within areas which are relatively isolated; have diverse topography and minimal commercial activity; maintain sparse human populations; and contain lands under federal jurisdiction. These characteristics are also generally compatible with National Forest Systems. Inasmuch as low-level overflights do have the potential to disrupt the solitude and naturalness of areas directly under their flight paths, we recommend you include consideration of these training missions in your discussion and decisionmaking process wherever solitude and naturalness are desirable attributes within the forest system, such as within your Wilderness, Research, and Recreation designations.

2. If we can be of further assistance in any manner, please contact Mr. David Farvel, at (415) 556-0882.

Phillip E. Lammi
PHILLIP E. LAMMI, Chief
Environmental Planning Division

1 Atch: Training Routes Map

IR344
ADAMS
IR346



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Our specific comments on the draft Management Plan and EIS are enclosed. Thank you for the opportunity to review these documents. If you need clarification of these comments or additional information, please contact me at (503) 230-5136.

Sincerely,

Anthony R. Morrell
Assistant to the Administrator
for Environment

Enclosure
BPA Facilities Map

cc:
J. Creek, PP&L, Portland, OR
B. Sipe, USFS Region 6, Portland, OR

Specific comments on the Proposed Land and Resource Management Plan and DEIS follow.

Proposed Land and Resource Management Plan

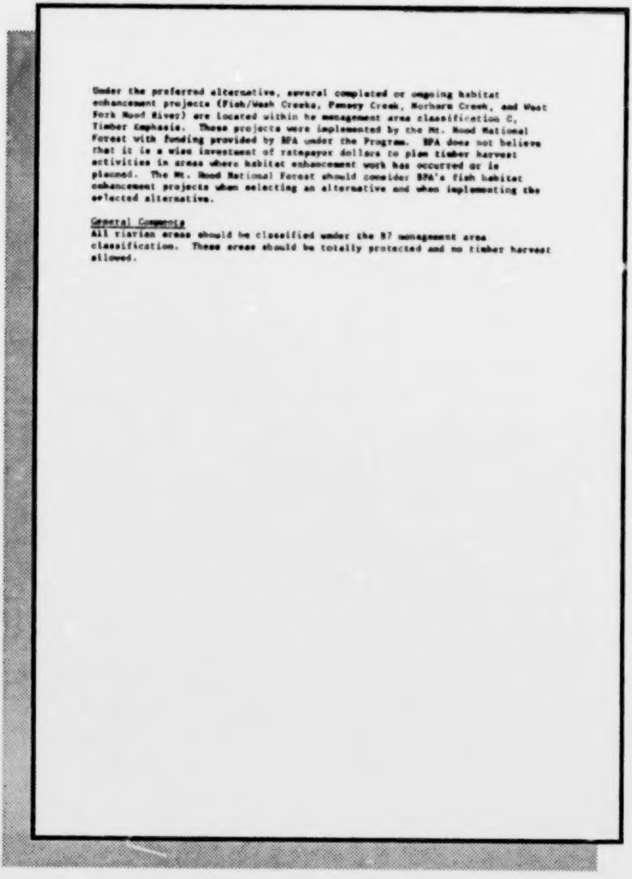
1. BPA and other utilities have transmission facilities located in the Mt. Hood National Forest. BPA facilities found in the Forest are illustrated on the attached map. They should be specifically identified in the Plan, as well as in the draft EIS. By not specifically recognizing or designating existing facilities, the Proposed Land and Resource Management Plan does not recognize that some forms of resource management may be incompatible with utility siting and operations. The Plan must recognize that some areas may require restricted public access in order to protect the operation of existing utility facilities and/or the safety of the general public.

2. Chapter Four, Page 4-3, Forest Management Goals. A goal should be added which provides for cost-effective and environmentally acceptable energy transportation in accordance with regional energy policies and programs.

3. Chapter Four, Page 4-56, Management Areas, Management Standards and Resource Area Prescriptions. It would be helpful if designated corridors were illustrated on a facilities map. The attached BPA Facilities Map illustrates the corridors BPA recommends for designation. The Management Areas Standards and Guidelines do not consistently address utility corridors. It would be useful if they were to identify specifically the areas considered avoidance or exclusion areas. Since there are so many acres of land occupied by energy facilities on the Forest, BPA recommends that a management area be specifically developed for corridors and facilities, as for the Mt. Baker-Snoqualmie and Gifford-Pinchot National Forests. The prescription should focus on forest and right-of-way management practices that provide responsible protection of energy facilities from fire and other hazards that affect the reliability of these facilities. The Standards/Guidelines for the new management prescription should reference the Project Plan and Right-of-Way Maintenance Plan as important documents which guide the construction and maintenance of BPA transmission rights-of-way. These documents are required by the BPA/Forest Service Memorandum of Understanding.

4. Right of Facility Access. Utilities must have access to their facilities at all times for maintenance and in emergencies. This need should be recognized in the Forest Plan. For the western side of the Pacific Crest Trail, please contact BPA's Lower Columbia Area Office to discuss actions such as land transfers, proposed construction of buildings/structures near BPA facilities, or modification of access roads that could affect our access to those facilities or their reliability.

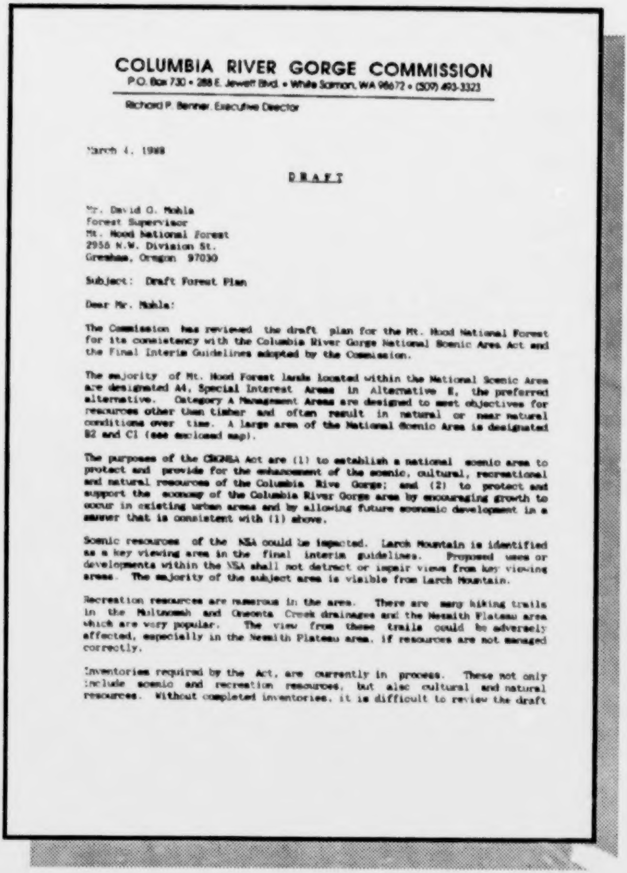
The last page of the appendices has a statement that BPA will not require additional right-of-way, this is not true.



Under the preferred alternative, several completed or ongoing habitat enhancement projects (Fish/Wash Creeks, Pansey Creek, Norhorn Creek, and West Fork Hood River) are located within he management area classification C, Timber Emphasis. These projects were implemented by the Mt. Hood National Forest with funding provided by BPA under the Program. BPA does not believe that it is a wise investment of ratepayer dollars to plan timber harvest activities in areas where habitat enhancement work has occurred or is planned. The Mt. Hood National Forest should consider BPA's fish habitat enhancement projects when selecting an alternative and when implementing the selected alternative.

General Comments

All riarian areas should be classified under the B7 management area classification. These areas should be totally protected and no timber harvest allowed.



COLUMBIA RIVER GORGE COMMISSION
P.O. Box 730 • 288 E. Jewett Blvd. • White Salmon, WA 98672 • (509) 493-3323

Richard P. Benner, Executive Director

March 4, 1988

D R A F T

Mr. David G. Mohla
Forest Supervisor
Mt. Hood National Forest
2955 N.W. Division St.
Gresham, Oregon 97030

Subject: Draft Forest Plan

Dear Mr. Mohla:

The Commission has reviewed the draft plan for the Mt. Hood National Forest for its consistency with the Columbia River Gorge National Scenic Area Act and the Final Interim Guidelines adopted by the Commission.

The majority of Mt. Hood Forest lands located within the National Scenic Area are designated A4, Special Interest Areas in Alternative E, the preferred alternative. Category A Management Areas are designed to meet objectives for resources other than timber and often result in natural or near natural conditions over time. A large area of the National Scenic Area is designated B2 and C1 (see enclosed map).

The purposes of the CRGNSA Act are (1) to establish a national scenic area to protect and provide for the enhancement of the scenic, cultural, recreational and natural resources of the Columbia Rive Gorge; and (2) to protect and support the economy of the Columbia River Gorge area by encouraging growth to occur in existing urban areas and by allowing future economic development in a manner that is consistent with (1) above.

Scenic resources of the NSA could be impacted. Larch Mountain is identified as a key viewing area in the final interim guidelines. Proposed uses or developments within the NSA shall not detract or impair views from key viewing areas. The majority of the subject area is visible from Larch Mountain.

Recreation resources are numerous in the area. There are many hiking trails in the Multnomah and Oneonta Creek drainages and the Nesmith Plateau area which are very popular. The view from these trails could be adversely affected, especially in the Nesmith Plateau area, if resources are not managed correctly.

Inventories required by the Act, are currently in process. These not only include scenic and recreation resources, but also cultural and natural resources. Without completed inventories, it is difficult to review the draft

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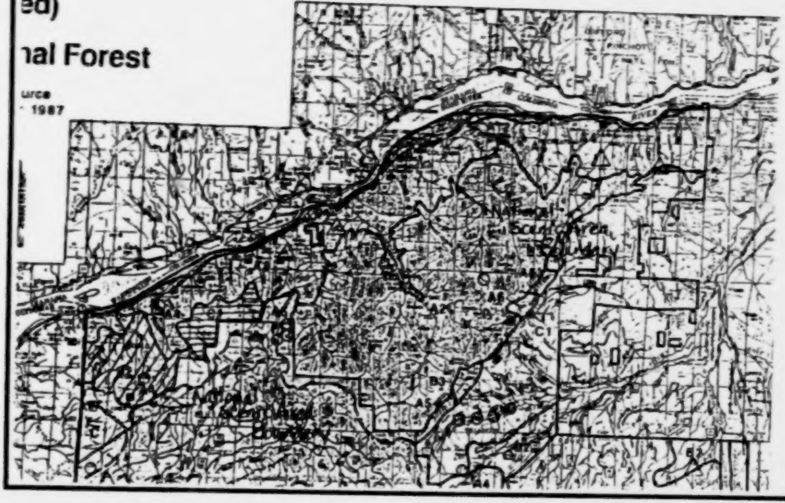
COLUMBIA
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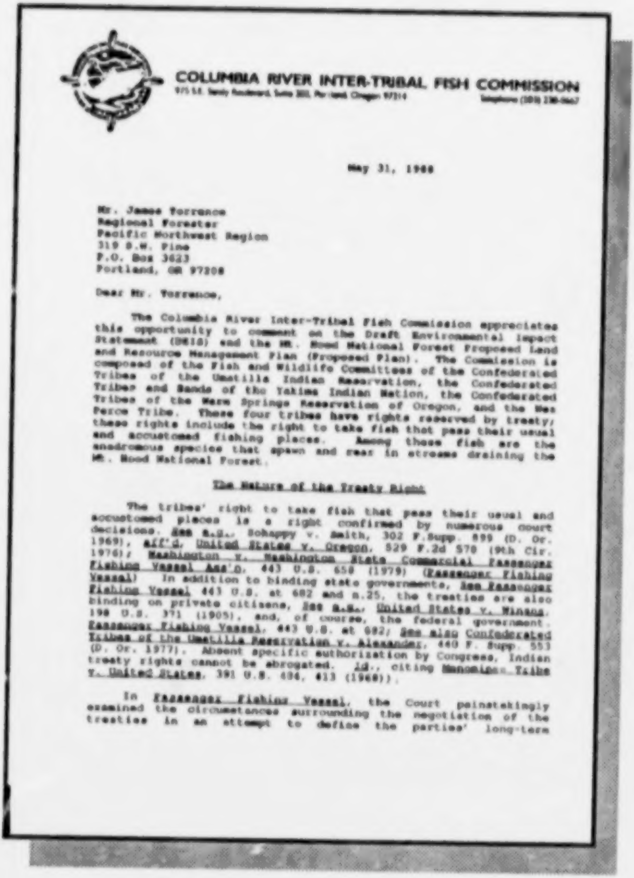

COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION
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Telephone (503) 238-0667

May 31, 1988

Mr. James Torrence
Regional Forester
Pacific Northwest Region
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Dear Mr. Torrence,

The Columbia River Inter-Tribal Fish Commission appreciates this opportunity to comment on the Draft Environmental Impact Statement (DEIS) and the Mt. Hood National Forest Proposed Land and Resource Management Plan (Proposed Plan). The Commission is composed of the Fish and Wildlife Committees of the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakima Indian Nation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Nez Perce Tribe. These four tribes have rights reserved by treaty; these rights include the right to take fish that pass their usual and accustomed fishing places. Among these fish are the anadromous species that spawn and rear in streams draining the Mt. Hood National Forest.

The Nature of the Treaty Right

The tribes' right to take fish that pass their usual and accustomed places is a right confirmed by numerous court decisions. *See e.g.*, Sohappy v. Smith, 302 F.Supp. 899 (D. Or. 1969), *aff'd*, *United States v. Oregon*, 529 F.2d 570 (9th Cir. 1976); *Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658 (1979) (*Passenger Fishing Vessel*) In addition to binding state governments, *See Passenger Fishing Vessel* 443 U.S. at 682 and n.25, the treaties are also binding on private citizens, *See e.g.*, *United States v. Winans*, 198 U.S. 371 (1905), and, of course, the federal government. *Passenger Fishing Vessel*, 443 U.S. at 682; *See also Confederated Tribes of the Umatilla Reservation v. Alexander*, 440 F. Supp. 553 (D. Or. 1977). Absent specific authorization by Congress, Indian treaty rights cannot be abrogated. *Id.*, citing *Menominee Tribe v. United States*, 391 U.S. 404, 413 (1968)).

In *Passenger Fishing Vessel*, the Court painstakingly examined the circumstances surrounding the negotiation of the treaties in an attempt to define the parties' long-term intentions. The Supreme Court emphasized that Governor Stevens invited the tribes to rely on the United States' good faith efforts to protect their right to a fisheries livelihood. Stevens specifically told the tribes: "This paper [the treaty] secures your fish." *Id.* at 667 n.11. During the treaty negotiations, "the Governor's promises that the treaties *would protect that source of food and commerce* were crucial in obtaining the Indians' assent." *Id.* at 676 (emphasis added). As the Supreme Court stressed:

> It is absolutely clear, as Governor Stevens himself said, that neither he nor the Indians intended that the latter "should be excluded from their ancient fisheries," . . . and it is accordingly inconceivable that either party deliberately agreed to authorize future settlers to crowd the Indians out of any meaningful use of their accustomed places to fish.

Id. The Supreme Court also stated that the treaty guaranty of "the right of *taking* fish" was meaningful *only if fish were available for the taking*. *Id.* at 678 (emphasis added).

The 130 years since the treaties were signed have witnessed a truly startling number of methods by which the quantity of fish available for the taking could be reduced -- if not decimated. The courts have responded to these threats to the treaty right by declaring a policy that the treaty right cannot be defeated by technology or other methods not anticipated by the treaty signatories. For example, in *United States v. Winans*, 198 U.S. 371 (1905), the defendant constructed a fish wheel (a device capable of destroying an entire run of fish) and excluded the Indians from one of their usual and accustomed fishing places. Commenting on the effects of improved fishing devices, the Court noted that:

> wheel fishing is one of the civilized man's methods, as legitimate as the substitution of the modern harvester for the ancient sickle and flail . . . It needs no argument to show that the superiority of a combined harvester over the ancient sickle neither increased nor decreased rights to the use of land held in common. In the actual taking of fish white men may not be confined to a spear or crude net, but it does not follow that they may construct and use a device which gives them exclusive possession of the fishing places, as it is admitted a fish wheel does.

Id. at 382. Thus, although improved technology may be brought to bear on the fishery, that technology cannot be allowed to imperil the rights secured to the parties to the treaty.

This result was reaffirmed by the Supreme Court in Passenger Fishing Vessel. There the Court declared that "[n]on-treaty fishermen may not rely on property law concepts, devices such as the fish wheel, license fees, or general regulations to deprive the Indians of a fair share of the relevant runs of anadromous fish in the case area." Passenger Fishing Vessel, 443 U.S. at 684. The Court's intent is clear: absent specific treaty abrogation legislation from Congress, (Menominee Tribe v. United States, 391 U.S. 404, 413 (1968)), no one may use any method to deprive treaty fishermen of their fair share of the anadromous fish.

Federal Duty to Protect Subject Matter of Treaties

In addition to their obligation to not destroy Indian treaty rights without specific Congressional action, federal agencies must use their authority to safeguard that which is the subject matter of federal treaties. In Kittitas Reclamation District v. Sunnyside Valley Irrigation District, 763 F.2d 1032 (9th Cir. 1985), the Ninth Circuit affirmed a district court order to operate a Yakima water project in a manner that would preserve spring chinook salmon redds. Federal project operators had originally sought to reduce water releases in order to store water for the next irrigation season. The proposed flow reductions would have left the redds high and dry. Testimony at the district court hearing indicated that the proposed water storage would be possible if twelve redds were transplanted or if berms were constructed. Id. at 1035. However, the district court judge was "unsure of the effect of these measures, so he continued the watermaster's authority to release water as necessary." Id. Expressly declining to decide the scope of the Yakima Indian Nation's treaty fishing rights, Id. at n.5, the Ninth Circuit found that the district court judge had fashioned a reasonable remedy. Id.

The message in Kittitas is clear. Federal agencies are obligated to exercise their authorities in a manner that will protect -- not degrade -- the habitat needed to support anadromous fish. In addition, when addressing anadromous fish habitat needs, various measures may be utilized, but the final choice turns not on traditional notions of agency expertise, but on the biological needs of the fish.

Trust Responsibility

The trust responsibility is that special relationship between the United States and Indian tribes that originated in Cherokee Nation v. Georgia, 30 U.S. (5 Pet.) 1 (1831) where the Supreme Court described Indian tribes as "domestic dependent nations" and declared that "their relation to the United States resembles that of a ward to his guardian." Id. at 17. This relationship is part of the very fabric of federal Indian law and it had at the time the treaty was concluded. *Id.* The purport of this holding is clear. Federal agencies owe a duty to refrain from activities that will interfere with the *fulfillment* of treaty rights. Moreover, this duty cannot be performed by engaging in an "accommodation" or "balancing" process between Indian treaty rights and a competing economic interest such as timber harvest. Any such "accommodation" reached by the Forest Service would amount to a de facto abrogation of Indian treaty rights. In the context of forest management, unless the Forest service can demonstrate that the tribes' treaty rights are presently being fulfilled, it cannot justify approving activities in the forests that will cause further degradation of anadromous fish habitat.

The National Forest Management Act Mandates Coordination

The Forest Service is only one of the many entities involved in the complex interactions that have caused the diminution of anadromous fish runs to their present state. Columbia River hydroelectric development and other downstream problems have done grievous harm to the basin's fish runs. While the Forest Service can rightfully blame downstream problems for much of the harm inflicted on anadromous fish, such blame does not obviate the Forest Service's responsibility to protect anadromous fish and the need for all parties with management authority that affects these fish to work together to improve the fishery resource.

In dealing with anadromous fish, the Forest Service must look beyond the boundaries of a given national forest. Columbia River stocks of anadromous fish migrate as far inland as the Bitterroot National Forest and as far north as Alaska. As the Pacific Northwest has come to realize, the anadromous fish runs can only be restored if state, federal, and tribal land, water, and wildlife managers adopt a coordinated "gravel-to-gravel" management approach to this valuable and mobile renewable resource.

This approach is reflected by the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program. The Fish and Wildlife Program, mandated by the Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. Section 839b (1982), encompasses the Columbia River and its tributaries and is financed by Pacific Northwest ratepayers. Although the Forest's planning documents alluded to BPA restoration efforts, this comprehensive protection, mitigation, and enhancement effort does not appear to be integrated into the DEIS or Proposed Plan. Similarly, the planning documents mention, but do not discuss, the increased fish returns that have been made possible by the recently concluded United States-Canada Pacific Salmon Treaty. *See* 16 U.S.C. Section [illegible] (1985 Supp.).

The Fish and Wildlife Program and the Pacific Salmon Treaty, along with the Salmon and Steelhead Enhancement Act, have changed the complexion of fisheries management in the Columbia Basin. The success of both the Pacific Salmon Treaty and the Fish and Wildlife Program turn upon maximizing utilization of the anadromous fish habitat in Columbia River tributaries. A large percentage of these tributaries run through national forests. The Forest Service must acknowledge its responsibilities to act in concert with these policies. The Forest Service cannot make a reasoned decision with respect to anadromous fish habitat if it does not factor these activities into its decision-making process. The Pacific Northwest cannot afford to spend money enhancing fisheries that are simultaneously being degraded by timber harvest, roadbuilding, and grazing.

Indeed, the Forest Service recently recognized the need to coordinate its management activities with other federal agencies, states, tribal governments, and the public. According to the Forest Service's *Rise to the Future*, a primary responsibility of the Forest Service is "ensuring that fish habitats and their associated riparian areas are properly protected." *Fisheries Task Force Report*, Fisheries Habitat Management USDA-Forest Service March 16, 1987 at 4. Moreover, "evaluating the potential effects of forest management activities on fish habitat is part of that responsibility." *Id.* at 3.

The Draft Fisheries Task Force Report for the Pacific Northwest Region identified maintenance of existing riparian and fish habitat and water quality as a regional issue. *Draft Fisheries Task Force Report*, USDA-Forest Service Pacific Northwest Region June, 1987 at 3. The Task Force Report also identified interagency coordination and management as an issue. *Id.* According to the Task Force Report, over 37 agencies and Tribal governments have fisheries management responsibilities within the Region. The Task Force recognized that "close coordination of all activities is essential." *Id.* Given this direction by the Regional Office, the Mt. Hood National Forest should provide more specific details as to how it will coordinate its activities with other agencies and tribal governments. After all, the Plan and its accompanying EIS will guide all management activities, and many site-specific activities will require coordination with the tribes and other agencies. The statement that coordination is essential is a step in the right direction. DEIS at III-28. However, such a statement by itself does not provide the reviewer or the Forest's personnel with any guidance as to *how* coordination will be achieved.

Forest Service coordination with Pacific Northwest fisheries enhancement activities is not only sound policy; it is also required by law. Forest Service regulations declare that a review of state, federal, and tribal planning and land use activities shall be included in the forest plan EIS. *See* 36 life cycle, their management decisions may have a decisive impact on other fishery management decisions or the fishery resource itself. This is by no means a revolutionary concept. In fact, the Forest Service avails itself of this management approach every time it asserts that the reason that basin fish production is not any higher is because of downstream passage mortality or harvest management. The Forest Service is correct when it states that harvest and passage considerations are important to the overall health of the Columbia basin anadromous fishery. However, fish production, both natural and hatchery, is also equally important. The Forest Service is directly responsible for natural fish production occurring on national forest lands. Pointing accusatory fingers at other entities does not relieve the Forest Service of its duty to ensure that its management will not adversely affect already depleted naturally producing stocks.

The idea that proper fishery management requires coordination of harvest, passage, and production needs has been around for a number of years. It is embodied in the Pacific Northwest Electric Power Planning and Conservation Act enacted in 1980. *See* 16 U.S.C. Section 839b(h) (1982). It is also an integral aspect of the Northwest Power Planning Council's efforts to coordinate restoration of Columbia basin fisheries to the extent affected by hydroelectric power production. *See e.g.* Northwest Power Planning Council, Salmon And Steelhead Planning, Staff Issue Paper (June 3, 1986):

> A gamut of potential problems may result from uncoordinated actions. Fish production investments may be in conflict. Power system operations may diminish production or offset increases in production. Harvest practices could prevent escapement in adequate numbers to ensure sustained increases in yield. The mixed-stock harvest could undermine passage actions designed to protect or enhance certain stocks of fish. Harvest and power needs may not be sufficiently defined to guide production efforts. Production decisions may be made without full regard to harvest needs and to power system constraints with respect to passage. Land and water management actions may undermine fish production investments.
>
> When actions are taken in the absence of a system perspective, there also may be too little recognition of the spectrum of choices among production, passage and harvest actions. Actions may be taken without consideration of the full range of alternative means to achieve objectives. Actions may be taken with inadequate analysis of their likely effectiveness. As a result, there is no assurance that a given action achieves sound biological objectives at the minimum economic cost.

> Moreover, in the absence of a system perspective, monitoring and evaluation of actions may be uncoordinated, lacking, short-term, sporadic, or narrow in focus. *Id.* at 8.

The Forest's planning documents merely mention the habitat improvement projects of the NPPC and BPA. The Forest failed to adequately discuss the planning activities of the NPPC, the Pacific Salmon Treaty Commission, or the parties to *U.S. v. Oregon*. In addition, the planning documents only provide a broad-scale identification of anadromous fish habitat. *See* DEIS at III-26, III-27. The Forest identified a few fishing streams, but it appears that the Forest either does not know *where* the important natural fish production areas are or, if it does, that it will fail to provide adequate protection and monitoring. Thus, it is impossible for a reviewer to ascertain which fish production areas will be protected. The broad-scale identification of fish habitat stands in stark contrast to level of resolution for timber land allocations.

The Forest Service has often informed CRITFC and tribal staff that the Forest Service is only responsible for supplying fish habitat and that there is far more capable habitat than there are fish. The Forest Service's responsibilities include more than merely furnishing a given amount of habitat. The Forest Service must identify those areas which are being utilized by fish and, to the extent it can, those areas which will be utilized through either *United States v. Oregon* or Fish and Wildlife Program enhancement. Indeed, identification of areas that may be used in the future is a critical element in developing a long-range plan. Unfortunately, the Mt. Hood National Forest has not even identified present habitat areas with any specificity; the issues involved with utilization of additional habitat in the future are only vaguely considered.

There are many who consider the need to provide for increased natural fish production to be a major constraint on anadromous fish harvest regimes. Part of the concern behind protection of naturally spawning stocks is the desire to protect important gene pools that will be needed to restore the basin's fisheries. For a discussion of the role of genetics in Columbia Basin fisheries, *see* Northwest Power Planning Council, Salmon and Steelhead Research, Staff Issue Paper (June 3, 1986). The Mt. Hood National Forest contains significant natural production areas. The completion of fish bypass systems at the dams should greatly reduce dam mortality. However, increases in stock recruitment, resulting from the installation of expensive bypass systems, may be cancelled out by further degradation of spawning and rearing habitat.

The tribes have foregone harvest of fish, to which they are legally entitled, for the purpose of providing increased

The Proposed Plan and DEIS assert that Best Management Practices (BMPs) will be used to mitigate impacts from management activities and to meet Oregon State Water Quality Standards (WQSs). However, the mere invocation of terms such as BMPs, standards and guidelines, streamcourse protection, erosion control, etc., without a specific identification of the mitigation measures involved, and evaluation of the effectiveness of these measures is "insufficient to qualify as the reasoned discussion required by NEPA." *Northwest Indian Cemetery Protective Ass'n v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), *rev'd on other grounds*, ___ U.S. ___, (1988). *See also*, *Adler v. Lewis*, 675 F.2d 1085, 1096 (9th Cir. 1982); *Oregon Natural Resources Council v. Marsh*, 820 F.2d 1051, 1055 (9th Cir. 1987). Has the Mt. Hood undertaken any studies to evaluate the effectiveness of BMPs? Are BMPs effective in protecting fish habitat? Will use of these BMPs ensure compliance with state WQSs for those watersheds that currently exceed Oregon standards?

The Mt. Hood must discuss the effectiveness and uncertainties of its proposed mitigation techniques. *See e.g.*, *Northwest Indian Cemetery*, 795 F.2d at 697; *Oregon Natural Resources Council v. Marsh*, 820 F.2d at 1055; *National Wildlife Federation v. United States Forest Service*, 592 F. Supp. 931, 942-943 (D. Or. 1984), *order vacated in part and appeal dismissed*, 801 F.2d 360 (9th Cir. 1986). Moreover, the Mt. Hood must discuss the extent of its reliance on NPPC enhancement programs in its projections for anadromous fisheries. The NPPC fisheries enhancement programs are, by law, intended only to compensate for losses due to hydropower projects. 16 U.S.C. Section 839b (h)(10)(A) (1982). Congress did not intend for the region's ratepayers to fund these programs as mitigation measures for Forest Service management activities. Is reliance on habitat enhancement as mitigation appropriate in the face of the current federal budget crunch? Given the level of the Forest's reliance on enhancement programs, how did the Forest evaluate the effectiveness of enhancement programs to reach its fisheries projections?

The DEIS should be revised to include analyses of known mitigation techniques. These analyses should include evaluations of land types, effectiveness, standards for application, and any other information that might be of aid in deciding whether a given mitigation technique is appropriate. Mitigation techniques based on unfounded assumptions, or of unknown effectiveness, are simply unacceptable. The Commission will be happy to contribute its expertise towards evaluating the use of various mitigation methods on a case-by-case basis.

Timber Resource Land Suitability

The NFMA regulations require that lands be identified that are not suited for timber production. Lands may be identified as unsuitable for timber production because, among other things, the "[t]echnology is not available to ensure timber production from the land without irreversible resource damage to soils productivity, or watershed conditions," or because "[t]here is not reasonable assurance that such lands can be adequately restocked as provided in Section 219.27(c)(3) [within five years]." *See* 36 C.F.R. Section 219.14(a)(2)-(3) (1984).

The determination of the amount of land suitable for timber production is a critical facet of a forest plan. As such, the classification process needs to be adequately explained.

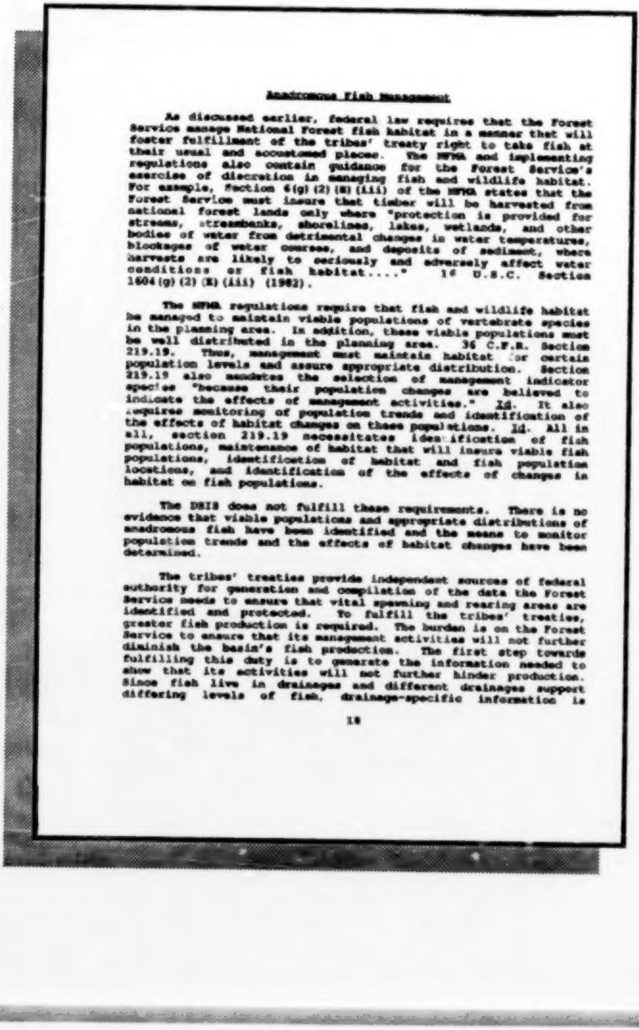
What is "irreversible resource damage?" Of course, one definition cannot be created that will cover all situations, but the Forest Service can at least give a general description. What is the difference between "irreversible" and "reversible" resource damage? "Irreversible damage" needs to be defined in a manner that protects those resources dependent upon stable productive soils and healthy watersheds. For example, "irreversible resource damage" to watersheds must take into account the life cycle and genetic background of anadromous fish.

The legislative *history* of *NFMA* Section 6(k) demonstrates that Congress intended the Forest Service to consider the profitability of timber production in the determination of land suitability. Just because an area could be logged using an expensive logging system, does not mean that the area is suitable for timber production. Moreover, just because a logging method might minimize impacts does not mean that these impacts will be insignificant and not result in irreversible damage to soils, watersheds, or fisheries.

Sales Below Cost

Over the years, fish and wildlife concerns have often been subordinated to the needs of allegedly more economically valuable, but environmentally damaging commodities such as timber harvest, irrigated agriculture, grazing, and hydroelectric power production. Thus, it is not without some ironic amusement that the Commission observes the current controversy over unprofitable timber sales. Those who have advocated resource decision-making primarily on the basis of short-term economic gain suddenly find themselves "hoisted on their own petard." Perhaps this role reversal will convince all those involved in natural resource decision-making that cost/benefit analysis is at best an "unfaithful lover" and that resource decisions are best grounded on other bases.

The Commission is not automatically opposed to "sales below cost" *per se*. What concerns us is that the DEIS contains no assurance that *any* of the timber sales proposed for the next 50



Anadromous Fish Management

As discussed earlier, federal law requires that the Forest Service manage National Forest fish habitat in a manner that will foster fulfillment of the tribes' treaty right to take fish at their usual and accustomed places. The NFMA and implementing regulations also contain guidance for the Forest Service's exercise of discretion in managing fish and wildlife habitat. For example, Section 6(g)(2)(E)(iii) of the NFMA states that the Forest Service must insure that timber will be harvested from national forest lands only where "protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat...." 16 U.S.C. Section 1604(g)(2)(E)(iii) (1982).

The NFMA regulations require that fish and wildlife habitat be managed to maintain viable populations of vertebrate species in the planning area. In addition, these viable populations must be well distributed in the planning area. 36 C.F.R. Section 219.19. Thus, management must maintain habitat for certain population levels and assure appropriate distribution. Section 219.19 also mandates the selection of management indicator species "because their population changes are believed to indicate the effects of management activities." Id. It also requires monitoring of population trends and identification of the effects of habitat changes on these populations. Id. All in all, section 219.19 necessitates identification of fish populations, maintenance of habitat that will insure viable fish populations, identification of habitat and fish population locations, and identification of the effects of changes in habitat on fish populations.

The DEIS does not fulfill these requirements. There is no evidence that viable populations and appropriate distributions of anadromous fish have been identified and the means to monitor population trends and the effects of habitat changes have been determined.

The tribes' treaties provide independent sources of federal authority for generation and compilation of the data the Forest Service needs to ensure that vital spawning and rearing areas are identified and protected. To fulfill the tribes' treaties, greater fish production is required. The burden is on the Forest Service to ensure that its management activities will not further diminish the basin's fish production. The first step towards fulfilling this duty is to generate the information needed to show that its activities will not further hinder production. Since fish live in drainages and different drainages support differing levels of fish, drainage-specific information is needed. These differing conditions should entail differing management responses from the Mt. Hood National Forest.

Vigorous coordinated efforts have been and are currently being made to resolve these problems. The United States/Canada Pacific Salmon Treaty will greatly increase the numbers of anadromous fish returning to the Columbia basin. In addition, restoration of naturally spawning chinook stocks by 1998 is an explicit goal of the treaty. The Northwest Power Planning Council's Fish and Wildlife Program is making significant improvements in mainstem passage survival. Both the Fish and Wildlife Program and *United States v. Oregon* will be mandating increased natural production. The Forest Service's obligation to abide by and actively help fulfill the tribes' treaties provides it with ample federal authority to coordinate its management efforts so that they do not conflict with policies and programs implemented through the Pacific Salmon Treaty, *United States v. Oregon*, and the Fish and Wildlife Program.

Water Quality And Viable Fish Populations

The NFMA and its implementing regulations explicitly require the Forest Service to ensure protection of streams and fish habitat. Plans must "insure that timber will be harvested from National Forest System lands only where -- ...protection is provided for streams, streambanks, shorelines, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat...." NFMA at Section 6(g)(2)(E)(iii). The NFMA regulations parrot this language. *See* 36 C.F.R. Section 219.27(e). When Congress declared that the Forest Service must insure that timber harvest will not result in serious and adverse effects on water conditions and fish habitat, it meant what it said. If Congress had intended that water and fish habitat protection would be provided only by the states and the Clean Water Act apparatus, it would have said so. Instead, Congress imposed specific requirements on the Forest Service.

Given Congress' imposition of these specific requirements, it seems incredible that the Mt. Hood would essentially "punt" its management responsibilities for water quality and fish habitat to the states. The Mt. Hood must *discuss* how its compliance with the Clean Water Act will be sufficient to maintain existing levels of fish habitat capability and existing fish populations.

What is the existing water quality that would be maintained by the use of best management practices? For those watersheds in which water quality has declined, DEIS at III-14, it is obvious that current best management practices are not adequate to prevent degradation of water quality. How will the Forest's

Table 1. Average annual decade one timber outputs (mmbf) for Alternatives A and E, proposed Mt. Hood National Forest Management Plan.

Output	Alt. A	Alt. E	% Change A to E
1. CHARGEABLE			
ASQ (Green)	229	255	+11.4
ASQ (Salvage)	14	13	- 7.4
2. NON-CHARGEABLE			
"Other" (Green)	21	21	0
"Other" (Salvage)	3	3	0
"Other" (Dead)	3	3	0
3. SUB-MERCHANTABLE			
Fuelwood	16	17	+6.3
Cull, etc.	30	35	+16.7
TOTAL CHARGEABLE	243	268	+10.3
TOTAL NON-CHARGEABLE	73	79	+8.2
TIMBER SALE PROGRAM QUANTITY (TSPQ)	316	347	+9.8

Table 2. Average annual decade one non-timber outputs for Alternatives A and E, proposed Mt. Hood National Forest Management Plan.

Output	Alt. A	Alt. E	% Change A to E
1. ROADS			
Art. & Col. (miles)	8	11	+37.5
Local (miles)	26	32	+23.1
2. AIR QUALITY			
Suspended Particulates (PPM)	5466	6266	+14.6
3. FISH			
Smolts (index)[1]	100	100	0
Trout (index)[1]	100	100	0
Commercial Harvest Anadromous (M lbs.)	491	497	+1.2
Anadromous Habitat Improvement (M lbs.)[2]	1.0	1.3	+30.0
4. WATER			
Yield (M Ac/ft)	5446	5446	0
5. SEDIMENT			
Yield (index)[1]	31.3	34.8	+11.2
6. WILDLIFE/FISH USER DAYS			
WFUDs (x 1000)	289	289	0
7. WATERSHED STABILITY			
Stability index[3]	3.3	3.5	+6.1
8. MANAGEMENT INDICATOR SPECIES			
Spotted Owls (pairs)	80	85	+6.3
Pileated Woodpeckers (pairs)	102	102	0
Pine Marten (pairs)	231	231	0
Silver Grey Squirrels (#)	4900	3400	-30.6
Turkey (#)	1000	700	-30.0
Deer (#)	24000	9200	-61.7
Elk (#)	3600	4300	+16.3

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[1] Index not defined in Mt. Hood documents.
[2] Unit used in Mt. Hood documents.
[3] Index range 0 to 10, low to high stability.

it imposes stringent fiduciary standards of conduct on federal agencies in their dealings with Indian tribes. See United States v. Creek Nation, 295 U.S. 103 (1935). See also Northern Cheyenne Tribe v. Hodel, 12 Indian L. Rep. 3065, 3070-71 (D. Mont. 1985).

In Northern Cheyenne Tribe, the court declared that "a federal agency's trust obligation to a tribe extends to actions it takes off a reservation that uniquely impact tribal members or property on a reservation." Id. at 3071. In an attempt to save its coal leasing EIS from invalidation, the Secretary of the Interior alleged that there was no specific statute or treaty that required the Department to consider the impacts of coal leasing on the tribe as an entity. Id. The Secretary also alleged that his decision to lease the coal was in the "national interest" and "vital to the nation's energy future." Id. The court declared that:

> The Secretary's conflicting responsibilities and federal actions taken in the "national interest," however, do not relieve him of his trust obligations. To the contrary, identifying and fulfilling the trust responsibility is even more important in situations such as the present case where an agency's conflicting goals and responsibilities combined with political pressure asserted by non-Indians can lead federal agencies to compromise or ignore Indian rights.

Id. (citations omitted). Similarly, the Forest Service must not allow its obligations to the Columbia River treaty tribes to become lost in its concern for the local citizenry. It must accord the treaty right special consideration and scrupulous safeguards. Management activities that affect anadromous fish production also affect the tribes' exercise of their treaty rights. The Forest Service owes a duty to not only discuss the effects of forest management activities on the tribes, but also a duty to safeguard resources of crucial importance to the tribes. This duty is not fulfilled by actions which sanction degradation of fish habitat needed to rebuild the Columbia River runs.

Magnitude of Fisheries Reserved by Treaty

The Forest Service's duty to protect and enhance anadromous fish habitat does not cease once a fish run becomes viable. The tribes did not reserve a right to take a few fish from a meager run struggling for survival. Some might argue that the Columbia River treaty tribes reserved the right to continue harvesting that number of fish that they had traditionally harvested. Obviously, that harvest level is not yet possible given the contemporary depleted fisheries. The Supreme Court has held that both Indian and non-Indian fishermen possess a right, "secured by treaty, to take a fair share of the available fish." Passenger Fishing Vessel, 443 U.S. at 684-85. The Court determined that

Indian harvest allocation should not exceed 50% of the harvestable fish. Id. at 685-86. The Court then declared:

> It bears repeating, however, that the 50% figure imposes a maximum but not a minimum allocation . . . [T]he central principle here must be that Indian treaty rights to a natural resource, that once was thoroughly exclusively exploited by the Indians, secures so much as, but no more than, is necessary to provide the Indians with a livelihood -- that is to say, a moderate living. Accordingly, while the maximum possible allocation to the Indians is fixed at 50%, the minimum is not; the latter will, upon proper submissions to the district court, be modified in response to changing circumstances. Id. at 686-87.

Perhaps the reason why this "moderate living standard" unearthed by the Supreme Court has not proven to be a truly thorny problem in Pacific Northwest fisheries management is because no one can reasonably contend that the Indians' harvest presently yields a moderate living. This fact was implicitly acknowledged by the Supreme Court in Passenger Fishing Vessel when it stated that the 50% ceiling on the Indians' harvest allocation was necessary "to prevent their needs from exhausting the entire resource and thereby frustrating the treaty right of 'all [other] citizens of the territory.'" Id. at 686.

Regardless of what the term "moderate living standard" means, it will eventually be defined by the judiciary -- not a federal agency. See Id. at 687. As discussed earlier, the Ninth Circuit has already determined that federal agencies must refrain from taking actions that will reduce the number of fish in a depleted run. See Kittitas, 763 F.2d at 1035. Nor does this duty cease when an anadromous fish run manages to increase its numbers beyond the dangerous level of minimum viability. In United States v. Adair, 723 F.2d 1394 (9th Cir. 1984), the Ninth Circuit stated that:

> Implicit in this "moderate living" standard is the conclusion that Indian tribes are not generally entitled to the same level of exclusive use and exploitation of a natural resource that they enjoyed at the time that they entered into the treaty reserving their interest in the resource, unless, of course, no lesser level will supply them with a moderate living. Id. at 1415 (emphasis added).

Here the Ninth Circuit has indicated that the Klamaths must be allowed to achieve their "moderate living." No one knows what that is. The court explicitly stated the possibility that the "moderate living standard" may only be achieved by allowing the tribe to enjoy the "same level of exclusive use and exploitation"

C.F.R. Section 219.7 (a)-(c) (1986). In addition, the regulations provide that this review shall consider the objectives of federal, state, local, and tribal governments, inter-related impacts of these plans, and a decision by the Forest Service on how each forest plan shall address these inter-related impacts. Id. at (c)(1)-(4). Among the objectives of federal, state, and tribal governments are the fish production plans currently being formulated under the auspices of United States v. Oregon, the Fish and Wildlife Program, and the Pacific Salmon Treaty. The Mt. Hood National Forest DEIS and Proposed Plan do not reflect the consideration of these processes required by the NFMA.

Protected Areas

As a consequence of its federal mandate to protect, mitigate, and enhance fish and wildlife while assuring the Pacific Northwest an adequate and economical power supply, the Northwest Power Planning Council (NPPC) is currently estimating the location and extent of anadromous fish in the Columbia Basin. The results of this study will provide the most current and comprehensive examination of Columbia Basin anadromous fish production capability available. Parts of this study are being used to identify areas and stream reaches that, due to their value to fish, should be protected from hydroelectric development. See Staff Issue Paper on Protected Areas, (Oct. 30 1987). The Forest Service and anadromous fish managers from federal, state, and tribal governments should coordinate to make sure that the information generated by the Hydro Assessment Study will foster the most judicious resource utilization possible. It would be wasteful and expensive indeed to invest money in habitat enhancement and protection only to have those efforts smothered by sediment generated by logging and roadbuilding.

In accordance with the Hydro Assessment Study Work Plan, the State of Oregon submitted proposals for protected areas. Oregon's Draft Criteria for protected areas includes "all areas containing anadromous salmon and steelhead resources or their natural habitat," and "all potential anadromous use areas where improvement measures have been identified and adopted in the NPPC Fish and Wildlife Program to restore production to the area." Many streams which drain watersheds in the Mt. Hood National Forest were proposed for protection. See NPPC, Proposed "Protected Areas List," May 2, 1988.

The DEIS states that many hydroprojects have been proposed for streams within the Mt. Hood National Forest. DEIS at III-11. However, there is no specific identification of streams or watersheds which have been proposed for hydroprojects. The Commission is particularly concerned with projects proposed for the Hood River and Fifteenmile Creek watersheds. The Forest needs to incorporate the Power Planning Council's efforts on protected areas in the Forest's planning documents. Although the Power Planning Council's proposal may not become final before the FEIS is completed, the Mt. Hood needs to discuss how it will integrate the final rules concerning Protected Areas into the Forest Plan.

Cumulative Impacts

There are 17 national forests in the Columbia basin that produce anadromous fish. These are: the Clearwater, Nezperce, Bitterroot, Boise, Challis, Payette, Salmon, Sawtooth, Umatilla, Wallowa-Whitman, Mount Hood, Malheur, Ochoco, Gifford Pinchot, Okanogan, Willamette, and Wenatchee. All of them are going through the forest planning process. Approximately 50 to 70% of all remaining anadromous fish habitat is contained in these forests. Events on these forests will have a profound impact on the anadromous fish resource that is vital to the welfare and existence of the four Columbia River treaty tribes.

Unfortunately, the Forest Service does not seem to realize that each forest is an important cog in the machine that will either revive the fish runs or slowly log, road, graze, or mine them into oblivion. To adequately assess the environmental impacts of its actions as required by NEPA, the Forest Service must study and disclose the cumulative impacts of all 17 forest plans listed above on the Columbia River anadromous fish runs and the four Columbia River treaty tribes. It is simply inadequate for each forest to merely look at the impacts of its activities within the borders of the forest or in the surrounding communities and counties. It is also inadequate for the Forest Service to baldly assert that it has assessed cumulative impacts while offering absolutely no evidence that it has made any such consideration. Fish production precluded by activities within each forest and in conjunction with other forests affects not only surrounding communities, but also downstream Indian tribes and other fishers both inriver and in the ocean.

CRITFC and tribal staff have repeatedly requested that the cumulative impacts of Columbia basin forest plans on anadromous fish be identified. The Forest Service has repeatedly informed CRITFC and tribal staff that this analysis is too speculative and impossible to be performed. The Commission suggests that, in addition to being required by NEPA, a cumulative impacts assessment of the effects of forest plans on Columbia basin anadromous fish is no more speculative and impossible than the timber output cumulative impact analysis mandated by Secretarial directive.

Adequate assessment of cumulative impacts requires a certain management worldview. It requires that managers of land, water, or fish realize that even though they may only have management authority over a relatively small aspect of the anadromous fish escapement of naturally spawning adults. Despite these efforts, and despite the increasing numbers of returning adults (many of which are hatchery fish), the tribes are under pressure to further forego harvest opportunities. Forest management that will cause reduction in natural fish production will further exacerbate this situation. Management that will adversely affect existing natural fish production directly conflicts with the tribes' treaty rights.

It is commendable that the Mt. Hood National Forest has attempted to evaluate the cumulative effects of its management activities on water quality and quantity, and riparian area and fish habitat. See e.g., DEIS at IV-16; IV-24 to IV-30. However, there is no analysis of the effects of management activities on streambank stability, stream morphology, bed substrate quality, turbidity, macroinvertebrate populations and diversity, timing of flows, downstream impacts, pool-riffle ratios, large organic debris and fish habitat quality and quantity, for example. The Forest must supply an evaluation of the effects of management activities on these elements to meet the requirements of NEPA and NFMA.

Both individually and cumulatively, the effects of road-building, logging activities, and cattle grazing, can result in increased sedimentation of streams, increased instream temperatures, decreased water quality, changes in flow regimes, changes in stream morphology, reduction of large organic debris, degradation of spawning and rearing habitat, reductions of fish and aquatic invertebrate populations, and effects on downstream fisheries. Taken together, the cumulative effects of these activities can be devastating on other resources. The Mt. Hood must discuss whether the cumulative effects of its proposed activities will cause the environmental impacts listed above. The Forest must address the cumulative effects of roadbuilding, logging activities, and cattle grazing, both on and off the Forest, before the Proposed Plan will be acceptable. Failure to conduct these analyses will constitute a violation of NFMA and NEPA.

The DEIS indicates that the existing condition of riparian areas on the Mt. Hood is declining. DEIS at III-21 ("Declining riparian area conditions ... are substantiated by specific studies completed Forest-wide."). The declining condition of the riparian areas is "most prominent in watersheds having long term or large scale disturbance." Id. In addition, the Forest recognizes that "trends in aquatic condition are strongly influenced by riparian area conditions." Id. Given the frank recognition that riparian conditions are declining, and that riparian area conditions influence aquatic conditions, the Forest must provide more site-specific analysis. The general discussions on riparian conditions and the use of the Aquatic Stability Index does not provide the reviewer with sufficient information to gauge the cumulative impacts of management activities. We suggest that the Forest use a watershed-by-watershed analysis. Such an analysis would allow the reviewer to delineate the environmental effects of management activities on watersheds that have been disturbed and compare those watersheds to watersheds that have not been disturbed.

Mitigation

The Forest Service has often relied upon mitigation in the hope that mitigation will compensate for the damage inflicted on fish habitat by timber harvest. However:

> Mitigation of fish habitat losses is often presented as a panacea and substitute for maintenance of habitat quality. The concept of "fisheries mitigation" is more myth than substance. It seldom materializes and when it does, it only partially compensates for substantial losses. There is no history of fisheries budgets sufficient to mitigate substantial losses of quality habitat. Recent and projected budget trends indicate a *status quo* situation.

See Espinosa, Background Paper Fisheries Resources Analysis of the Management Situation Clearwater National Forest (undated) at 56-57 (emphasis in text). The Commission is acutely aware of the vagaries and inadequacies of fisheries mitigation. Thus, we are extremely skeptical of vague promises of best management practices, implementation of standards and guidelines, and reliance on enhancement to mitigate management impacts on fish habitat.

Given the importance of the anadromous fish resource, very little reliance should be placed on mitigation measures that do not have a proven record of effectiveness. The Forest Service must be careful to not ask more of a mitigation technique than the method can give. New or untested mitigation techniques should be thoroughly evaluated before being widely used and relied on in modeling or on the ground. Monitoring should be vigilant, stringent, and should include all entities that are involved in the management of anadromous fish. Finally, mitigation methods should be chosen on the basis of the protection they will provide the fishery resource, not how much they will affect the cost/benefit analysis of commodity resources such as timber, range, and mineral extraction. *See e.g., Pacific Power & Light Co.*, Opinion No. 381-A, 30 F.P.C. 499 (1963), *aff'd in part, rev'd in part on other grounds*, 333 F. 2d 689 (9th Cir. 1964), *cert. denied*, 379 U.S. 969 (1965) (where it is declared that it is the policy of other federal agencies to require complete recompense for fisheries damage.)

years will actually recover its true costs. The NFMA regulations require that the Forest Service "shall compare the direct costs of growing and harvesting trees, including capital expenditures required for timber production, to the anticipated receipts to the government...". See 36 C.F.R. Section 219.14(b) (1984). "Direct costs" are defined to "include the anticipated investments, maintenance, operating, management, and planning costs attributable to timber production activities, including mitigation measures necessitated by the impacts of timber production. Id. at Section 219.14(b)(2) (emphasis added). Our examination of the DEIS could not determine that the Mt. Hood identified direct costs, as defined by the regulations, or compared direct costs to anticipated receipts.

The Commission is concerned that the Forest Service will respond to the "sales below cost" controversy by artificially "improving" its timber sale balance sheet by shortchanging mitigation needs. Any methods to reduce costs that may impact water quality or fish habitat, e.g., lowering local road design standards, are simply inappropriate.

The DEIS should disclose the manner in which mitigation measures and levels of mitigation funding are chosen and applied. This information may demonstrate that the timber production envisioned by the proposed alternative fails to include all mitigation costs and is therefore even more cost ineffective than it presently appears. Bland assurances that the Forest Service will implement mitigation measures which it alone determines are necessary frustrates the policies behind both NEPA and NFMA. Both of these statutes demand disclosure, public scrutiny, and public input.

In attempting to justify "sales below cost," the Forest Service should explain where it intends to find the funds to pay for mitigating the effects of timber management on fish and wildlife. It is our understanding that Knutsen-Vandenberg funds for fish and wildlife are not generated by "sales below cost" whereas a sale that covers its costs also yields mitigation money. In other words, fish and wildlife are much more adversely affected by a below cost sale than by a sale that is financially sound.

Community Stability

Despite the utter dearth of statutory authority, the Forest Service appears to believe that the "maintenance of community stability" is the primary constraint on forest management. In addition, "maintenance of community stability" also appears to mean perpetuation or increase in commodity outputs to the detriment of non-commodity outputs and an attempt to artificially maintain lifestyles which would not otherwise be economically feasible. In essence, the Forest Service seems to perceive its mission as being the guarantor of the local timber and range industries.

The Mt. Hood National Forest is a national forest and should not be managed as a private woodlot for a handful of local mills. If the trends for sustainable flow from surrounding lands are on a declining trend in the local area, the intentions of the Forest to match past levels of harvest may in the long run fail to support local mills. The Forest Service is not charged with the obligation to insure community stability. Its true mission is to ensure that the resources it controls will be productive into perpetuity. It fails that standard if it allows timber harvest that reduces the productive capacity of forest fish habitat.

The Forest Service's use of the "local area of influence" (the counties surrounding the Mt. Hood National Forest) concept fosters the perception that the Mt. Hood National Forest's primary duty is to the local community. It also promotes "constituency planning" instead of the statutorily required resource planning. As a result, forest outputs are evaluated on how well they satisfy the aspirations of the local timber-production-oriented populace -- not on how well they accord with responsible resource stewardship. It is understandable that the policy-makers and staff of the Mt. Hood National Forest would want to do their utmost to satisfy the wants of their neighbors -- those people who live in the counties surrounding the Forest. However, this desire must give way to those requirements that are explicit federal obligations, such as the tribes' treaty rights.

Budget

In our examination of the Plan and DEIS, we could not ascertain what percentage of its present budget the Forest spends on Wildlife and Fish and Soil, Water, and Air. Nor could we readily ascertain the percentage to be spent on these resources in the Forest's proposed budget. The Plan or DEIS should include a comparison of the proposed budget to the present budget and an itemization of present and projected costs by resource element.

Given the present domestic spending trends, it is extremely unlikely that the Forest Service will be able to count on receiving budgets of equal or greater amount than what it currently gets. The DEIS should include a complete explanation of how the Mt. Hood National Forest will respond to budget cuts, which programs will be cut and the amount of the cuts. What will be the fate of riparian area and watershed improvement projects? Do the Mt. Hood's predictions on water quality hinge on watershed improvements? Conversely, what will happen to water quality if this funding does not come through? Region IV national forests in Idaho have a 25% constrained budget alternative in their DEISs. The Mt. Hood would be wise to initiate planning that would anticipate substantial budget cutbacks.

continued reliance on BMPs for activities in degraded watersheds equate to compliance with the Clean Water Act?

The State of Oregon does not have a water quality standard for sedimentation such as degree of cobble embeddedness. As a result, existing state water quality standards are probably not adequate to protect fish habitat. Since the Forest Service has apparently elected to not adopt any water quality standards and has not defined serious and adverse harm to water conditions and fish habitat, how can it determine whether it is in compliance with either the NFMA or the tribes' treaty rights?

In short, the Mt. Hood's water quality and fish population protection policies are based on the unwarranted assumptions that it has no responsibility to manage for existing populations, that existing fish habitat capability is adequate (for what level of production?), and that proper implementation of current best management practices will insure that fish habitat capability will not be degraded to a level significantly (what is significantly?) lower than existing habitat capability.

To illustrate the extent of this abdication of management responsibility, it is only necessary to create an analogous policy for management of national forest timber harvest. This analogous policy would declare that the Forest Service has no responsibility for regulating timber outputs because of the enormous number of external factors entirely outside of Forest Service jurisdiction that essentially control the timber industry. Among these factors would be nation-wide interest rates, import levels, the relative health of regional economies, etc. Thus it would instead manage for timber habitat capability. It would manage timber habitat to insure that no serious and adverse harm would befall it (without defining what constituted "serious and adverse harm"). Finally, instead of using its authority to identify and enforce timber management guidelines to prevent serious and adverse harm, the Forest Service would declare that the state Department of Forestry also has authority to set and enforce management guidelines and that this would satisfactorily protect timber habitat.

The absurdity of the above example should help illustrate the "disfavored step-child" status of anadromous fish in forest planning. The Forest Service's predilection for shunting fish management responsibility elsewhere has hindered needed resource inventory efforts required by both NEPA and NFMA. Full implementation of forest plans cannot occur until protection is assured for the anadromous fish resource.

General Comments

The Forest plainly recognizes the role water plays in maintaining forest ecosystems. It is also aware of water's importance to people -- for drinking, agriculture, recreation, etc. In addition, the relationship between water quality and forest management is readily acknowledged through statements as: "The range of quality levels closely follow (sic) the degree of past management activities..." (DEIS III-8). Likewise, the primary importance of the Forest's soil resource is well understood, as is the relationship between soil and forest productivity (DEIS III-7 & 8).

It is, thus, difficult for us to comprehend and accept why the Mt. Hood seems so willing to embark on a course that will further degrade its two most underlying natural resources. Increased damage to them will reduce the well-being of every other forest component and contribute to producing an environment and resource base of considerably less utility and attractiveness to man.

It is disturbing to us to recognize that the Mt. Hood Forest also sees the potential danger in imposing a departure harvest scheme. In comparing its preferred alternative, E (departure), with alternative G, which has the same land allocations but no departure, the Forest finds: "Alternative E returns more gross receipts, but it costs more, primarily for mitigation of potentially adverse effects of harvests on water quality and fish and wildlife habitat" (DEIS II-67). Shortly thereafter we see: "Since Alternative G's ASQ is less than E's, and since both alternatives have the same land base, there is a greater probability of producing timber without incurring unacceptable environmental consequences at Alternative G's level of harvest" (DEIS II-67).

Our review of this plan leads us to conclude that the fundamental flaw within it is the application of constraints dictating relatively high timber harvest levels, which are further exacerbated by a "need" for departure level harvests in decade one. In an attempt to illustrate our concerns we constructed the accompanying tables to depict some effects of moving toward the Forest's preferred alternative, E, from the current direction, alternative A. As we did so we kept in mind the NFMA direction, as stated in your document, regarding departure timbering: "NFMA planning regulations allow for the development of alternatives which depart from the non declining policy when conditions indicate that the departure may reasonably be expected to improve overall multiple-use management" (DEIS II-14)(Emphasis added).

Recognizing the intent of the proposed plan, and in view of the above tables, it is fairly obvious that the Mt. Hood's timber program will be the primary beneficiary if the preferred alternative is implemented. With few exceptions, every other major resource will decline in the face of departure harvest levels. We had hoped for a more balanced management plan.

One of the major difficulties we encountered during our review was in attempting to extrapolate potential consequences of a forest-wide output or general environmental effect (e.g., sediment production/delivery, soil compaction, etc.) and subsequently apply them to proposed management directions in a way that would give us some real idea of how [illegible] resources would be impacted. Throughout its DEIS the Forest does a generally good job of laying out the potential overall consequences of an action or the broad environmental effects of various management activities. It does a much poorer job of relating the generalities with specifics; a reviewer needs to readily compare the results of different courses of action.

For example, the DEIS contains frank discussion about the relationship between soil and forest management actions (DEIS III-5 to 8, IV-5 to 10). As a reviewer we read this and came away with an appreciation of the complexities of soil science and the headaches involved in trying to devise means to efficiently harvest trees without unduly damaging sensitive ground. But when we tried to apply the general information presented in your documents to the various potential management schemes within the different alternatives, and to determine what those differences meant in terms of potential adverse impacts to the soil, we encountered great difficulty. Because of the way the alternatives are described in the plan we had to immediately start thinking in terms of five thousand vs. ten thousand tractor-logged acres, this amount vs. that amount of machine slash-piling, etc. And all we had to go on there was the basic knowledge that tractors are potentially more damaging than rubber-tired vehicles or cable systems; machine-piling is less benign (but also less expensive) than hand piling, and so on. How are we to judge what the different alternatives really mean in terms of on-the-ground impacts to a specific site? All we can deduce is relative difference between them, averaged across the Forest, without knowing what the difference actually means.

Much of this confusion could be alleviated if the Mt. Hood would adopt a management approach that views the forest, plans management activities, reports potential consequences, and makes decisions based on how they will affect distinct geographic basins or drainages and the contiguous resource groups that occupy them. (Of course, it would simultaneously need to maintain recognition that the drainages are not completely independent of one another.) With such intensified scrutiny applied to more ecologically definable forest units a manager would be more capable of detecting and dealing with problems whose impacts could be interpreted in terms of their effects on specific areas and resources groups. And when we, as reviewers, were asked to gauge the merits of a proposed action within the area, we could also assess it in a meaningful context. At the present time, and under existing methodologies, we are often prevented from making reasoned evaluations because there is no reasonable way to sort out and apply the information given.

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Standards & Guidelines

We view standards and guidelines as one of the most critical components of a management plan. These self-imposed regulations demonstrate the extent to which the managing agency recognizes and implements its responsibility to equitably manage, rather than exploit, the elements that constitute its resource base. We also recognize that the dynamic, often site-specific nature of forest management activities necessitates the allowance of some flexibility in terms of how standards and guidelines are to be applied. Thus we accept, in principle, the note (Plan 4-9) describing how use of terms such as "must," "shall," "should," etc., is to be interpreted. But even allowing for this leeway, the Mt. Hood Forest's proposed standards and guidelines frequently cause us concern. Where the more discretionary terms are applied, or where ostensibly non-discretionary terms are subsequently qualified, we find no insight into what circumstances might trigger the standard's suspension or relaxation. There is also nothing to indicate what course(s) the land manager might next be expected to follow in the event a standard is waived. And finally, there is no indication of what recourse is available to parties or areas adversely affected by the waiver.

Some standards are so general that it is difficult to discern their real value. And, finally, in some instances seemingly worthwhile standards are, without explanation, applied in such a highly selective manner that their value is significantly reduced. Some examples follow:

1). "The American Indian Religious Freedom Act must be considered..." (Plan 4-10).

What constitutes "consideration"? Standards like this need to be clarified so that they can be understood. And by what authority is the Forest Service only compelled to "consider" its responsibility to abide by federal law?

2). "The Forest should strive to protect the American Indians' rights to use and possess sacred objects on Forest lands..." (Plan 4-10).

Applying a double qualifier ("should strive") leaves a standard vague and, in this case, implies that the right in question is not considered to be of much real importance. Again we ask, by what authority is the Forest Service empowered to dismiss the rights of people?

3). "Projects which may affect riparian management areas (RMAs) should conform to established standards" (Plan 4-14).

Initially, we are not sure what "established standards" are being referenced, or even to what they primarily apply. Are these project standards, riparian area standards, or both? And assuming their application is, as indicated, somewhat optional, what guides the decision-maker in deciding whether or not to apply them? Unless clarified, standards like this are meaningless.

4). "RMA will be established as the primary management unit for the riparian area and will include sufficient upland transition zone to meet riparian standards" (Plan 4-14).

Given the qualifications attached to use of the term "will" (Plan 4-9), what does a standard like this mean, and how is it to be implemented? Also, what other "riparian standards" are referred to?

5). "Maintain existing capability of floodplains to store and route floodwaters" (Plan 4-16).

How will such a standard be implemented in the field? If a floodplain is currently undisturbed will it simply be left that way? How will the Forest assess effects of its multiple activities within the same drainage, but upstream of the floodplain, in terms of meeting this standard? If a floodplain has already been altered by past management, will its existing condition serve as the baseline against which to measure compliance with this standard? As currently written this standard is so ill-defined that its utility cannot readily be determined.

6). "Maintain or restore streambank or shoreline stability of the riparian management area" (Plan 4-16).

Under what circumstances would maintenance be sufficient? What would trigger restoration? A standard will only be of value if it can readily be interpreted and implemented.

7). "Where practical, increase shading on streams where:

(1) The 5-day average maximum summer water temperature exceeds 65° F.

(2) Increased water temperatures are likely to reduce off-Forest beneficial water uses" (Plan 4-19).

This standard baffles us. The primary statement is apparently applicable to class I, II, and III streams but the secondary statements (1 and 2), which define specific problems to be corrected, are apparently not to be applied anywhere. Why, then are they even there? And of what use is the standard we are left with -- "Where practical, increase shading on streams..."? Why bother?

All in all we encountered considerable trouble understanding and accepting the direction offered in the matrices displaying forest-wide riparian area standards and guidelines. Of particular concern was the lack of protection for class IV streams. These must be protected if water and habitat quality in the larger streams formed by and dependent upon them are to be maintained. As a result of omissions such as these, even the standards that were presented seemed to fly in the face of the Forest's stated concerns about improving its water quality and fisheries. Considerably more attention needs to be paid to the development of sound standards by which to guide management in this most fragile of forest habitats.

8). "To minimize the potential for over-use, vehicle access should not be provided (normally) or, shall be controlled within 1/2 mile of lakes designated for dispersed, nonmotorized recreation" (Plan 4-21).

We don't see how it is possible to misapply this standard, i.e., provide vehicle access, and still maintain the lake in a non-motorized recreation category. Some clarification is obviously needed.

9). "Livestock grazing should not be allowed to cause unacceptable resource damage" (Plan 4-45).

Under what circumstances would unacceptable damage be acceptable? What damage is acceptable and what is the actual standard to be applied?

10). "Natural barriers to free movement of livestock, within an allotment, should be replaced with another form of barrier, if the barrier was necessary to maintain the required livestock control" (Plan 4-45).

What is to be gained by replacing a natural barrier with an artificial barrier? Under what circumstances might such an action suitable timberland base? What are the potential effects of this anticipated change?

7). "Fire prevention actions on the Forest must be performed to support the integrated fire management plan" (Plan 4-37).

It is impossible to gauge the worth of this standard because we are not informed what the integrated fire management plan is. We have no way of assessing its impact on forest activities.

8). "Post fire rehabilitation of fire areas shall restore the areas to productivity and to conditions existing prior to the fire, or fires" (Plan 4-37).

Free interpretation of the above statement's latter half brings up several questions. Are you likely to be able to restore pre-fire conditions? Even if you could, would it necessarily be a prudent action -- especially if pre-fire conditions contributed to starting the fire? Recognizing that fire is an integral part of forest ecology, is man's constant interference after the fact, such as your standard proposes, likely to come back to haunt him in much the same way that his interference before the fact (total prevention/suppression) has?

9). "A range inventory and analysis must be initiated on range allotments when a significant change occurs in the vegetation or forage component" (Plan 4-45).

What constitutes "significant" change? And assuming that some such changes might be caused by unacceptable damage from overgrazing (the subject of a previous standard), how will such damage be prevented if problem analysis occurs only after the fact?

The above examples reflect typical problems and questions we encountered during our review of Mt. Hood's proposed standards and guidelines. They were selected to highlight specific points, but should not be mistakenly considered as representing the sole problem areas we found. There were numerous others. We believe the Mt. Hood Forest needs to carefully review and revise its management standards before drafting its final documents. Sound, readily comprehensible standards are a fundamental part of a good management plan because they set the management "tone." Weak standards will allow an otherwise good plan to founder.

Monitoring Plan

Another element crucial to determining success or failure of a forest management plan is the monitoring schedule that accompanies it. Through continuous monitoring, the Forest displays the extent to which it is willing to check the validity of its management assumptions, the utility of its standards and guidelines, and the interest of its managers in pursuing balanced management programs.

Our review of Mt. Hood's monitoring plan is presented in the same format used to review the Forest's standards and guidelines. Certain items, sections, statements, etc., that pose questions are highlighted as examples of areas requiring clarification. A cursory view of the plan left us impressed primarily by its non-specificity. Thus, we found it difficult to gain any real insight into what would motivate the Forest to act, and what actions might be contemplated if it appeared that outputs, desired resource conditions, etc., were not being met.

1). The Forest anticipates the precision and reliability of its landslide resource data base to be high where site-specific information is available and moderate where area-specific information is available (Plan 5-7). Further, the inventory parameters are expected to be updated as new site-specific data become available. We are curious as to the relationship between the Forest's schedule for collecting the site-specific data and its schedule for implementing ground-disturbing activities such as road construction and timber harvest. We assume that specific sites are examined for reasons other than sheer scientific curiosity. We wonder if the time necessary to perform the lab analysis, modelling, and drilling (elements separating achievement of moderate and high monitoring precision) is afforded by the schedules of activities requiring site-specific analysis. Simply put, does site specific analysis typically occur just in front of a bulldozer and, if so, is there sufficient time under these circumstances to alter or curtail a major ground-disturbing action if geologic instability is suspected at the project site? We are also curious to know how the 20% landslide occurrence factor is measured. Does this refer to numbers of landslides, landslide volume, earthflow travel distance...? Based on the information presented, it is difficult for a reviewer to understand how landslide monitoring will be carried out and acceptable or unacceptable variability from the "norm" will be established.

Landslide mitigation is to occur through application of measures set forth in the DEIS (page IV-4). Monitoring will assess compliance with those measures and further evaluation will be imposed for non-compliance or unsuccessful implementation (Plan 5-9). Considering what the mitigation measures are, e.g., minimizing road construction, avoiding activities that would determine compliance with the variability threshold on Fifteenmile Creek (Plan 5-17)? What is the baseline temperature to which new data are compared? Without some idea of how the actual monitoring will be done in the field, it is impossible for us to assess its potential effectiveness. If the threshold is exceeded, how would causative factors be determined? And what mitigation efforts could reasonably be expected to alleviate the temperature problems in the short term?

6). We can appreciate the complexities involved in monitoring watershed stability (Plan 5-18) but we question the wisdom of attempting to gauge such a factor on the basis of an unvalidated model that predicts likelihood of a major catastrophic event, i.e., a rain-on-snow-induced flood. Fundamentally, we question this approach because in order to validate the model (and thus test your monitoring scheme), the drainage in question must be subjected to the catastrophic event. If the model is good then everybody is probably happy. But if the model is not good the drainage may get hammered.

The Forest may have considerable data on frequency of extreme storm events. How would such data be correlated with ground-disturbing activity levels in a given basin? Has the model been successfully tested anywhere? If not, is it prudent to apply it forest-wide at this time?

We are not particularly impressed by the existing and predicted stability indices displayed in Table IV-3 (DEIS IV-25). The minimal increase in index value (scale of 0 - 10) from 3.3 under current direction to 3.5 under proposed direction does little to foster confidence that the Forest is greatly concerned about watershed stability. This is especially true because the index values are another of the ubiquitous forest-wide average values that tend to mask site-specific problems with which we should be dealing in order to prevent continued loss.

We assume that specific drainage stability values for unentered or largely uninspected basins (e.g., Bull Run, Eagle, Olallie) are presently much higher than stability values for significantly entered drainages. If so, then the stability indices for the entered drainages must be considerably lower than the forest-wide average values. How can we be expected to have much faith in a monitoring plan that relies on methods that continue to mask problems?

7). The Forest's planned monitoring of deer and elk population trends (Plan 5-26) appears to be little more than an afterthought. The Forest relies completely on ODFW for trend information, plans to expend *no* money to complete the task, and apparently expects little worthwhile information to result (Precision/Reliability index - Low). Further, the task is to be completed by the Forest Supervisor rather than the Forest

Wildlife Biologist. The variability threshold is a "decline below area objectives."

The only deer and elk objectives we've seen in the plan are (again) forest-wide averages that depict deer declining by 62% and elk increasing by about 16% under the preferred alternative in the first decade (Table II-18, DEIS II-50). Does ODFW really concur with the objective for deer? We are surprised that so little emphasis is to be applied to monitoring these two management indicator species.

8). Based on a monitoring frequency of one in three years (Plan 5-26), if a spotted owl nest site is found to be unoccupied, how will the variability threshold (site unoccupied for three consecutive years) be applied? Further, how is a nest "site" defined? If this refers to a tree in which a nest has previously been located, how would lack of occupancy affect management of the Spotted Owl Habitat Area?

9). Does the Forest anticipate attempting to develop methods other than vegetation sampling (Plan 5-27) for purposes of monitoring pileated woodpecker or pine marten populations? What validates the assumption underlying its monitoring scheme that existence of habitat, as described by the Forest, equates to some number of a species? If the Forest's concept of suitable habitat is flawed or limited, a simple habitat model may be inadequate.

10). The variability threshold for road design, "All nonconforming projects will be redesigned" (Plan 5-31) leaves us puzzled. What level of variability would lead to further evaluation of road construction and reconstruction design implementation procedures?

11). Arterial and collector road mileage has a variability threshold of 10% over five years (Plan 5-31) while local road mileage is allowed to vary 25% before further evaluation occurs. Why is there so much difference between the standards? If road density is overshot, will the excess roads be put to bed?

In summary, we believe that the Mt. Hood Forest needs to make its monitoring plan more explicit and specific so that usable information, applicable to correcting management imbalances, will be generated by its monitoring activities. We are not convinced that the Forest's proposed monitoring plan is sufficient to do the job.

activities on watersheds and related fisheries is inadequate, and that a watershed-by-watershed analysis is necessary. However, the state must also discuss the need for a more substantial cumulative impacts analysis. In particular, we could find no reference to cumulative impacts in the Draft Response or in the DEQ's comments, although the WRD and ODFW did mention cumulative impacts in their comments. The lack of any cumulative impacts discussion by the DEQ is most disappointing, because the DEQ is the lead agency with the responsibility for Oregon's water quality.

Perhaps the state's failure to discuss the Mt. Hood's cumulative impacts analysis are related to its problems with the Aquatic Habitat Stability Index that the Forest used to predict environmental effects on aquatic habitat and water quality. We agree that it is difficult, if not impossible, to determine the significance of the 3.5 index value assigned to the Forest's preferred Alternative E. In addition, the method used to generate the index values is not adequately developed or discussed. The problems that are evident in the Mt. Hood's development and use of the habitat stability index result in the serious shortcomings in the Forest's cumulative impacts analysis. As such, the state must emphasize that the Mt. Hood needs to conduct more thorough cumulative impacts analyses for watershed and fish habitat conditions. Indeed, Gail Achterman had indicated to the Commission that the Executive Department would affirmatively seek such cumulative effects analyses from the Forest Service. Failure to discuss the critical issue of cumulative impacts does not serve the interests of the state.

The Draft Response Does Not Discuss the Goal of Doubling the Columbia Basin Fish Runs or the System-wide Management Approach

The Draft Response mentions the lack of direction with respect to how the Mt. Hood will coordinate with the plans of ODFW and the Northwest Power Planning Council (NPPC). We agree that the lack of substantive direction pertaining to the respective fisheries management entities with authority over the fisheries impacted by the Forest must be corrected. The goals of preservation and restoration of the Columbia Basin anadromous fisheries are not exclusive with the Commission, the tribes, or the states but are reflected in regional, national, and international policies. Thus, a system-wide perspective and close coordination of management entities are essential to the realization of the goals of the tribes, the states, and other fisheries interests.

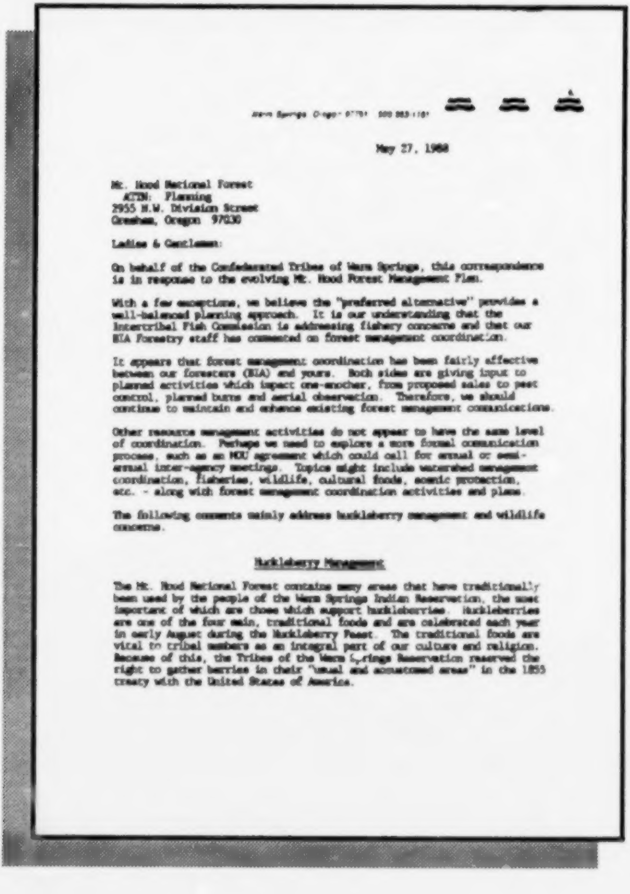
Oregon is part of the ongoing efforts to restore the Columbia fisheries. The state realizes the economic importance of the anadromous fishery. In fact, Governor Goldschmidt personally informed the Commission that the Fish and Wildlife Program's goal of doubling the Columbia Basin's anadromous runs represented one of Oregon's greatest economic opportunities. In addition, the Governor indicated his belief that national forest planning represented a critical facet of the efforts to increase the fish runs. However, in its comments on forest plans, the state has consistently neglected to mention the role of the tribes and the Pacific Salmon Treaty, and the NPPC's goal of doubling the Columbia runs by 1998. Although the Draft Response for the Mt. Hood does mention the NPPC and the importance of the Mt. Hood's anadromous fisheries, the state could strengthen its Response by clearly discussing the system-wide approach to the fishery resource and the goal of doubling the runs. As the management entity with jurisdiction of significant anadromous habitat, the Forest Service must be constantly reminded of its duty to analyse how its management activities will help or hinder the goals of the Basin's respective fisheries management entities.

The Draft Response Fails to Clarify the Differences Between Key State Agencies

Our review of the agency comments accompanying the Draft Response revealed several differences between several key agencies that were not adequately addressed by the Coordinated Response. We understand that the state agencies have different mandates and concerns, however, it is imperative that the Governor's Office reconcile the differences between the agencies and present an integrated state position. Of particular interest to the Commission and the tribes is the different treatment of "best management practices" (BMPs) and the relationship of BMPs to water quality protection and compliance with state water quality standards (WQS).

The OSDF comments state: "To demonstrate consistency with the Clean Water Act, the Mt. Hood Final EIS should discuss how the alternatives will satisfy the requirements of the Forest Practices Act." OSDF Comments at 4. According to the OSDF, because the Forest Practices Act provides for BMPs, consistency with state forest practices regulations constitutes compliance with the Clean Water Act. The DEQ, on the other hand, is very concerned with the fact that, even though the Mt. Hood has applied BMPs since 1979, the Forest's water quality has declined due to roadbuilding and timber harvest. DEQ Comments at 3. The DEQ comments state: "There is no adequate support...to substantiate the claim for water quality standards compliance." ID. The Draft Response does not reconcile the differences between these agencies. In fact, the Draft Response does not even mention BMPs and the relationship of BMPs to water quality protection.

Existing caselaw clearly supports the position of the DEQ: the mere invocation of BMP's, without a specific identification of the mitigation measures involved, and evaluation of the



Warm Springs Oregon 97761 503 553-1161

May 27, 1988

Mt. Hood National Forest
ATTN: Planning
2955 N.W. Division Street
Gresham, Oregon 97030

Ladies & Gentlemen:

On behalf of the Confederated Tribes of Warm Springs, this correspondence is in response to the evolving Mt. Hood Forest Management Plan.

With a few exceptions, we believe the "preferred alternative" provides a well-balanced planning approach. It is our understanding that the Intertribal Fish Commission is addressing fishery concerns and that our BIA Forestry staff has commented on forest management coordination.

It appears that forest management coordination has been fairly effective between our foresters (BIA) and yours. Both sides are giving input to planned activities which impact one-another, from proposed sales to pest control, planned burns and aerial observation. Therefore, we should continue to maintain and enhance existing forest management communications.

Other resource management activities do not appear to have the same level of coordination. Perhaps we need to explore a more formal communication process, such as an MOU agreement which could call for annual or semi-annual inter-agency meetings. Topics might include watershed management coordination, fisheries, wildlife, cultural foods, scenic protection, etc. - along with forest management coordination activities and plans.

The following comments mainly address huckleberry management and wildlife concerns.

Huckleberry Management

The Mt. Hood National Forest contains many areas that have traditionally been used by the people of the Warm Springs Indian Reservation, the most important of which are those which support huckleberries. Huckleberries are one of the four main, traditional foods and are celebrated each year in early August during the Huckleberry Feast. The traditional foods are vital to tribal members as an integral part of our culture and religion. Because of this, the Tribes of the Warm Springs Reservation reserved the right to gather berries in their "usual and accustomed areas" in the 1855 treaty with the United States of America.

The Draft Environmental Impact Statement, Proposed Land and Resources Management Plan for the Mt. Hood National Forest now reads: "The Forest does not contain traditional huckleberry fields as found on some other National Forests in the region..." Our research indicates an altogether different finding. Several areas, including Devil's Half Acre, The Sherar Burn, Zigzag Mountain, Tom, Dick and Harry Ridge, Abbot Burn, Squaw Mountain, High Rock and Indian Ridge, supported vast huckleberry fields. These berry fields mainly originated from large forest fires dating to the late 1800's and early 1900's. Until recent times, families from the Reservation would move, every summer, up to their customary berry areas. They would camp at High Rock Springs, Hambone, Wolf Camp, Fir Tree, Devil's Half Acre, Squaw Meadows, Wahtum Lake and other areas within the Forest.

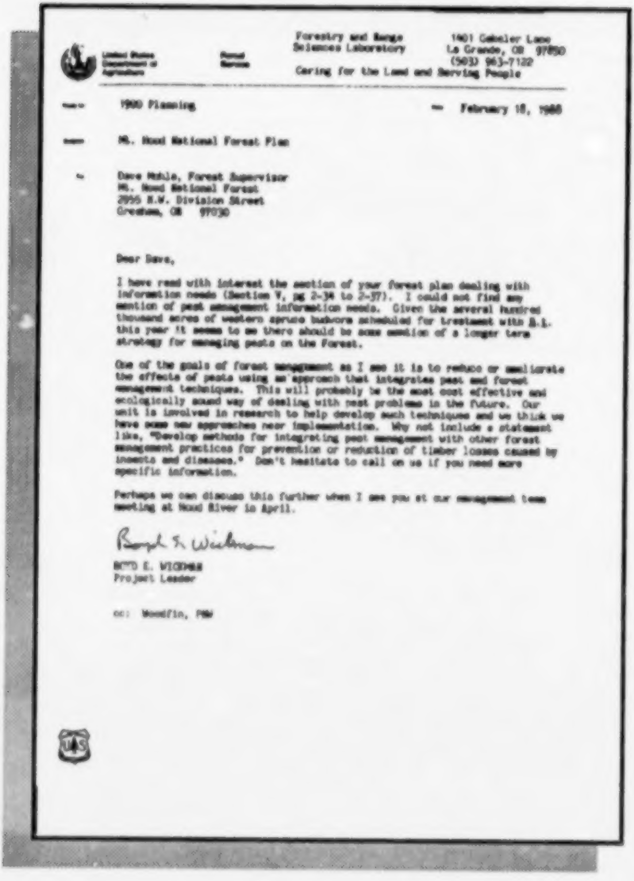
These sites and others were recognized by the USFS as being productive and of vital importance as early as 1942 when Forest Supervisor, A.O. Waha named these areas. In 1981, in an attempt to comply with the American Indian Religious Freedom Act, Sue Marvin, Mt. Hood Forest Archaeologist, met with tribal elders and documented these areas which had by then been invaded by trees and the berries had all but disappeared.

In addition to being an important traditional resource, huckleberries have the potential to be a valuable economic resource. Forest Service research estimates huckleberry yields of 77 to 100 gal./acre. At the going rate of $14.00/gal., a field producing 77 gal./acre is worth over a thousand dollars an acre per year.

The Confederated Tribes of Warm Springs would like to see land specifically designated for huckleberry management, especially the historically important areas.

The Tribes recognize that the conflagration fires that produced these historically used berry areas are no longer viable management tools. However, Don Minore's research of huckleberry ecology and management (General Technical Report, PNW-93) has produced a number of alternative management techniques. One of the options outlined by Minore is to plant huckleberry seedlings in clearcut blocks. This method has been attempted in the High Rock area. If this method should prove successful, we would like to see it attempted in other suitable clearcuts. Other recommended options included bulldozing and burn treatment followed by huckleberry planting, or girdling trees in existing huckleberry patches.

Also, in the 1981 tour of traditional use areas within the Mt. Hood National Forest, members of the Warm Springs Culture & Heritage Committee discussed with representatives of the Mt. Hood National Forest the possibility of setting aside areas for exclusive use by Indians, such as occurs in the Mt. Adams area. Sue Marvin, at that time, suggested instead that short-term, exclusive-use permits could be issued to Indians for one or two areas. No action on this has been pursued subsequent to that meeting. In any event, issuing an exclusive-use permit will be useless unless an effective huckleberry management strategy is adopted.



United States Department of Agriculture
Forest Service

Forestry and Range Sciences Laboratory
1401 Gekeler Lane
La Grande, OR 97850
(503) 963-7122

Caring for the Land and Serving People

Reply to: 1900 Planning

Date: February 18, 1988

Subject: Mt. Hood National Forest Plan

To:
Dave Mohla, Forest Supervisor
Mt. Hood National Forest
2955 N.W. Division Street
Gresham, OR 97030

Dear Dave,

I have read with interest the section of your forest plan dealing with information needs (Section V, pg 2-34 to 2-37). I could not find any mention of pest management information needs. Given the several hundred thousand acres of western spruce budworm scheduled for treatment with B.t. this year it seems to me there should be some mention of a longer term strategy for managing pests on the Forest.

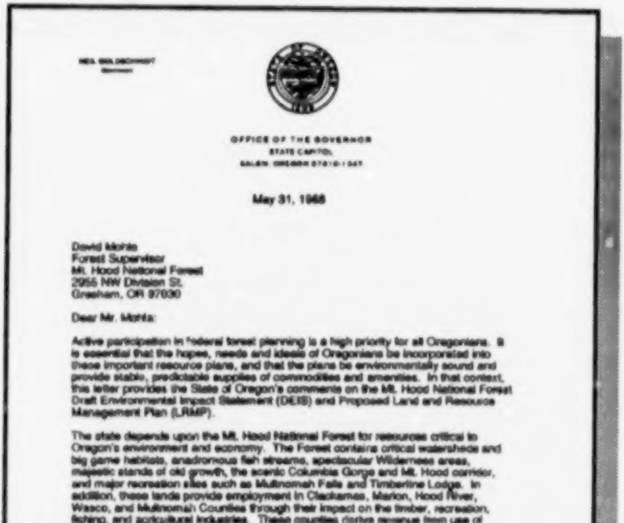
One of the goals of forest management as I see it is to reduce or ameliorate the effects of pests using an approach that integrates pest and forest management techniques. This will probably be the most cost effective and ecologically sound way of dealing with pest problems in the future. Our unit is involved in research to help develop such techniques and we think we have some new approaches near implementation. Why not include a statement like, "Develop methods for integrating pest management with other forest management practices for prevention or reduction of timber losses caused by insects and diseases." Don't hesitate to call on us if you need more specific information.

Perhaps we can discuss this further when I see you at our management team meeting at Hood River in April.

Boyd E. Wickman

BOYD E. WICKMAN
Project Leader

cc: Woodfin, PNW



OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310-1347

May 31, 1988

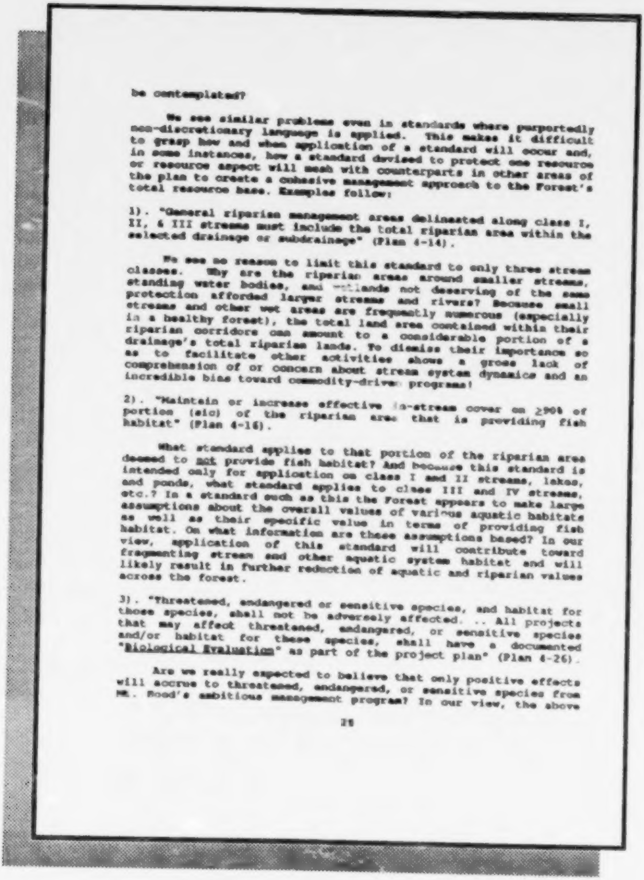
David Mohla
Forest Supervisor
Mt. Hood National Forest
2955 NW Division St.
Gresham, OR 97030

Dear Mr. Mohla:

Active participation in federal forest planning is a high priority for all Oregonians. It is essential that the hopes, needs and ideals of Oregonians be incorporated into these important resource plans, and that the plans be environmentally sound and provide stable, predictable supplies of commodities and amenities. In that context, this letter provides the State of Oregon's comments on the Mt. Hood National Forest Draft Environmental Impact Statement (DEIS) and Proposed Land and Resource Management Plan (LRMP).

The state depends upon the Mt. Hood National Forest for resources critical to Oregon's environment and economy. The Forest contains critical watersheds and big game habitats, anadromous fish streams, spectacular Wilderness areas, majestic stands of old growth, the scenic Columbia Gorge and Mt. Hood corridor, and major recreation sites such as Multnomah Falls and Timberline Lodge. In addition, these lands provide employment in Clackamas, Marion, Hood River, Wasco, and Multnomah Counties through their impact on the timber, recreation, fishing, and agricultural industries. These counties derive revenue from use of Forest resources.

The State's objectives for the management of the Mt. Hood National Forest are twofold: 1) that these lands be managed in an environmentally sound manner so that future generations have the same opportunities we do to enjoy the bounty the lands can provide; and 2) that these lands produce a high-level, sustainable flow of economic benefits and amenities. Our comments here focus on evaluating your resource management planning from these perspectives.



be contemplated?

We see similar problems even in standards where purportedly non-discretionary language is applied. This makes it difficult to grasp how and when application of a standard will occur and, in some instances, how a standard devised to protect one resource or resource aspect will mesh with counterparts in other areas of the plan to create a cohesive management approach to the Forest's total resource base. Examples follow:

1). "General riparian management areas delineated along class I, II, & III streams must include the total riparian area within the selected drainage or subdrainage" (Plan 4-14).

We see no reason to limit this standard to only three stream classes. Why are the riparian areas around smaller streams, standing water bodies, and wetlands not deserving of the same protection afforded larger streams and rivers? Because small streams and other wet areas are frequently numerous (especially in a healthy forest), the total land area contained within their riparian corridors can amount to a considerable portion of a drainage's total riparian lands. To dismiss their importance so as to facilitate other activities shows a gross lack of comprehension of or concern about stream system dynamics and an incredible bias toward commodity-driven programs!

2). "Maintain or increase effective in-stream cover on ≥90% of portion (sic) of the riparian area that is providing fish habitat" (Plan 4-16).

What standard applies to that portion of the riparian area deemed to not provide fish habitat? And because this standard is intended only for application on class I and II streams, lakes, and ponds, what standard applies to class III and IV streams, etc.? In a standard such as this the Forest appears to make large assumptions about the overall values of various aquatic habitats as well as their specific value in terms of providing fish habitat. On what information are these assumptions based? In our view, application of this standard will contribute toward fragmenting stream and other aquatic system habitat and will likely result in further reduction of aquatic and riparian values across the forest.

3). "Threatened, endangered or sensitive species, and habitat for those species, shall not be adversely affected. .. All projects that may affect threatened, endangered, or sensitive species and/or habitat for these species, shall have a documented "Biological Evaluation" as part of the project plan" (Plan 4-26).

Are we really expected to believe that only positive effects will accrue to threatened, endangered, or sensitive species from Mt. Hood's ambitious management program? In our view, the above two standards appear to contradict one another.

4). "Plant and animal community diversity shall be maintained or enhanced. Management shall protect and/or improve habitat for T & E species and for management indicator species" (emphasis added) (Plan 4-26).

This standard is hard to accept considering the Forest's projection (Table II-18, DEIS II-50) that at least three of its Management Indicator Species (silver grey squirrel, turkey, and deer) are expected to decline below existing levels during the first decade.

5). "Winter range management, except as indicated in the following standards, do (sic) not restrict the management objectives of other identified management areas" (Plan 4-28).

It is difficult to have much confidence in a group of standards so prefaced. When the Forest displays such an attitude about a critical habitat it also calls into question its commitment to species dependent upon that habitat. Winter range may be viewed as an inconvenience by the Forest, but that does not reduce its value and importance to species dependent upon its continued existence.

A basic lack of comprehension or consideration for the role and importance of winter range is displayed in a standard that states: "The visual quality objectives established for the management area overlaying the winter range must be met" (Plan 4-28). Are mere appearances more important to the Mt. Hood Forest than critical habitat values? Or do known winter range areas too frequently appear in lands slated for modification and maximum modification prescriptions? In our view, primary winter range areas should be identified, mapped, and managed for the benefit of dependent species. This habitat is critically important to wildlife and its values must not be dismissed so as to make winter range more readily available for other uses.

6). "The utilisation standards to be used in determining harvest levels shall be separated into first decade and future decades" (Plan 4-34).

Acknowledging that utilisation standards are required by the Regional Guide, we do not understand the rationale for the Mt. Hood's proposed standard of allowing a nine inch minimum D.B.H. for mature trees (except lodgepole) in decade one and a seven inch minimum D.B.H. thereafter (Table Four-3, Plan 4-34). What is expected to change after decade one and thus allow use of a seven inch log where a nine inch log is now required? What effect would employing this standard have on the Forest's ability to classify additional forest land as being stocked with merchantable timber? Would lowering the utilisation standard result in a change in the unbalance heads and toes of earthflows, dispersing or reducing timber harvest, etc., the only stage at which non-compliance could be effectively mitigated is during planning -- at which point potentially adverse actions could be prevented. Once implemented on-site it is probably too late to undo the damage. Roads cannot simply be unconstructed; earthflows cannot be re-balanced; harvested timber cannot be reattached. What good is monitoring if it happens only after the damage is done? And the impression we get from your plan is that that is exactly what will happen. Your monitoring methodology says you will monitor landslide mitigation through "field reconnaissance in area of field activity" (Plan 5-9). How effective can such monitoring be? The best "mitigation" for landslide areas is to avoid them.

2). The regional standard for allowable damage from soil compaction, puddling, and burning is 20% of a unit (Plan 4-24, 5-12). Compaction-damaged soils already exist on about 30,000 acres, and approximately 500 new acres are damaged each year under current direction (DEIS IV-8). Even though a substantial reduction from the current direction in tractor logging and machine slash piling (major soil compacting activities) is anticipated under the preferred alternative (DEIS IV-7), the Forest's sediment delivery index is expected to increase about 11% under the proposed plan (Table II-17, DEIS II-49). While we might take some comfort in assuming that compacted acres will be fewer under the proposed direction because of altered logging methods, we find no comfort in simultaneously having to deal with increased erosion that apparently stems from increased acreage being entered in order to meet departure harvest targets. And we are further bothered to find that erosion is not even to be monitored. There is no visible standard defining unacceptable levels of soil loss on the Forest. Why has this been omitted? After reading the information (DEIS IV-5 to 10) on soil resources and the effects of compaction, we are not convinced that a 20% acceptable compaction standard is even reasonable. Considering the potential long-term consequences of such damage, we are curious if the Forest (or Region) is contemplating research to determine if it is wise to allow up to one-fifth of its harvested acres to remain in a state of reduced productivity. Incidentally, we found the discussion on forest soils to be among the most complete we have encountered on this subject in Region 6 plans. The Mt. Hood deserves to be complimented on its detail and clarity.

3). The Forest's anticipated monitoring of anadromous fish (Plan 5-14) is apparently confined to west-side drainages. Why is the Fifteenmile Creek drainage, with its unique winter steelhead run, not to be monitored? Also, the Forest indicates that a 30% variability in five-year-average basin counts will be the standard for further evaluation, and that both adult fish and smolts will be counted. Where will the 30% standard be applied? On specific streams? On spawning areas? At counting sites?

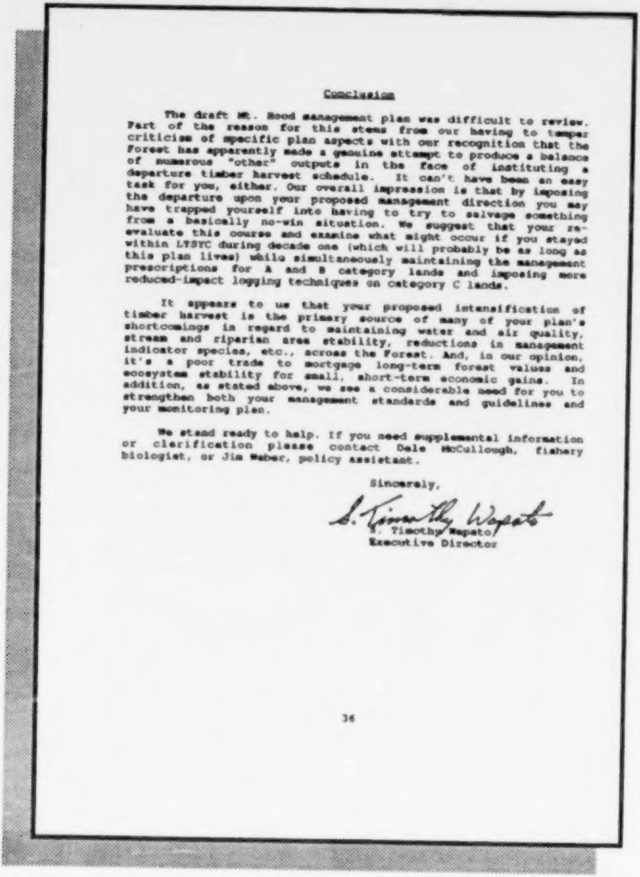
The Mt. Hood Forest produces or contributes to production of seven different anadromous fish runs (Table III-3, DEIS III-26) emanating from both natural and hatchery production bases. Some of the naturally-produced runs, (e.g., Fifteenmile Creek winter steelhead) are thought to be genetically unique and, thus, are of special importance and concern. When the Forest counts fish as part of its monitoring program does it simply aggregate the separate runs or are they counted as distinct units? Because naturally and artificially-produced fish are encountered, and because the natural fish are far more susceptible to direct, forest management-related impacts (stream sedimentation, water temperature problems, debris, etc.), a decline in the natural fish component may be totally masked by a concomitant increase in the hatchery component and may escape detection at a counting facility. Therefore, if your monitoring count is an aggregate, it will tell you little or nothing about what is happening to discrete stocks.

If anadromous fish, or any wildlife species, are a matter of real concern to the Forest, then their specific habitats and ranges need to be identified (to species, run, etc.), mapped, and managed so that effects of forest management activities on individual groups or populations can be both anticipated and tracked. Area-wide average numbers cannot adequately display the status of a species composed of numerous populations, or a group of similar species spread across a land base as large and diverse as the Mt. Hood National Forest. Continued attempts to manage on the basis of averages will only camouflage the small losses that are the first indicators of mismanagement. And continued disregard for the small losses amounts to nothing less than callous disregard for the wildlife being affected.

The plan states that fish counting will occur at Clackamas and Sandy river hydro projects. Are there adequate smolt enumeration facilities at these dams to allow construction of a defensible estimation of total outmigration? In other words, what are the smolt collection efficiencies at the dams and how do they affect application of the Forest's 30% variability standard? Finally, if fish counts fall outside acceptable variability bounds, and assuming the decline is a result of forest management actions, how are specific fish-affecting problems identified and alleviated?

4). The planned monitoring of habitat capability trends for management indicator species (Plan 5-16) leaves us puzzled. Why are anadromous smolts and legal trout designated as units of measure here when neither group is treated as an indicator species in discussions elsewhere in the plan? We found only one passing reference (DEIS III-27) to using these species as management indicators, but no discussion of particulars.

5). At how many locations are summer temperatures measured to



Conclusion

The draft Mt. Hood management plan was difficult to review. Part of the reason for this stems from our having to temper criticism of specific plan aspects with our recognition that the Forest has apparently made a genuine attempt to produce a balance of numerous "other" outputs in the face of instituting a departure timber harvest schedule. It can't have been an easy task for you, either. Our overall impression is that by imposing the departure upon your proposed management direction you may have trapped yourself into having to try to salvage something from a basically no-win situation. We suggest that your re-evaluate this course and examine what might occur if you stayed within LTSYC during decade one (which will probably be as long as this plan lives) while simultaneously maintaining the management prescriptions for A and B category lands and imposing more reduced-impact logging techniques on category C lands.

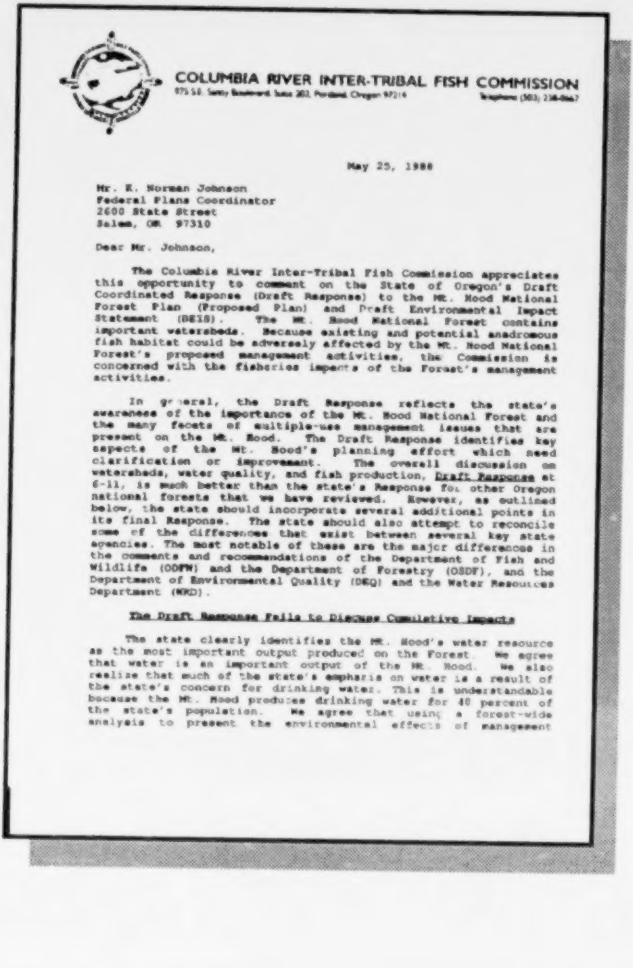
It appears to us that your proposed intensification of timber harvest is the primary source of many of your plan's shortcomings in regard to maintaining water and air quality, stream and riparian area stability, reductions in management indicator species, etc., across the Forest. And, in our opinion, it's a poor trade to mortgage long-term forest values and ecosystem stability for small, short-term economic gains. In addition, as stated above, we see a considerable need for you to strengthen both your management standards and guidelines and your monitoring plan.

We stand ready to help. If you need supplemental information or clarification please contact Dale McCullough, fishery biologist, or Jim Weber, policy assistant.

Sincerely,

S. Timothy Wapato

S. Timothy Wapato
Executive Director



COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION
975 S.E. Sandy Boulevard, Suite 202, Portland, Oregon 97214 Telephone (503) 238-0667

May 25, 1988

Mr. K. Norman Johnson
Federal Plans Coordinator
2600 State Street
Salem, OR 97310

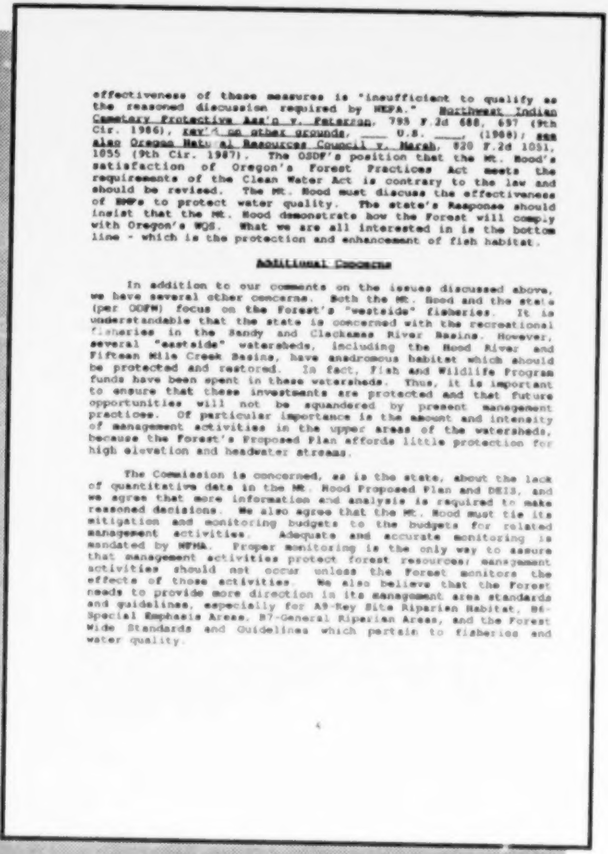
Dear Mr. Johnson,

The Columbia River Inter-Tribal Fish Commission appreciates this opportunity to comment on the State of Oregon's Draft Coordinated Response (Draft Response) to the Mt. Hood National Forest Plan (Proposed Plan) and Draft Environmental Impact Statement (DEIS). The Mt. Hood National Forest contains important watersheds. Because existing and potential anadromous fish habitat could be adversely affected by the Mt. Hood National Forest's proposed management activities, the Commission is concerned with the fisheries impacts of the Forest's management activities.

In general, the Draft Response reflects the state's awareness of the importance of the Mt. Hood National Forest and the many facets of multiple-use management issues that are present on the Mt. Hood. The Draft Response identifies key aspects of the Mt. Hood's planning effort which need clarification or improvement. The overall discussion on watersheds, water quality, and fish production, Draft Response at 6-11, is much better than the state's Response for other Oregon national forests that we have reviewed. However, as outlined below, the state should incorporate several additional points in its final Response. The state should also attempt to reconcile some of the differences that exist between several key state agencies. The most notable of these are the major differences in the comments and recommendations of the Department of Fish and Wildlife (ODFW) and the Department of Forestry (OSDF), and the Department of Environmental Quality (DEQ) and the Water Resources Department (WRD).

The Draft Response Fails to Discuss Cumulative Impacts

The state clearly identifies the Mt. Hood's water resource as the most important output produced on the Forest. We agree that water is an important output of the Mt. Hood. We also realize that much of the state's emphasis on water is a result of the state's concern for drinking water. This is understandable because the Mt. Hood produces drinking water for 40 percent of the state's population. We agree that using a forest-wide analysis to present the environmental effects of management

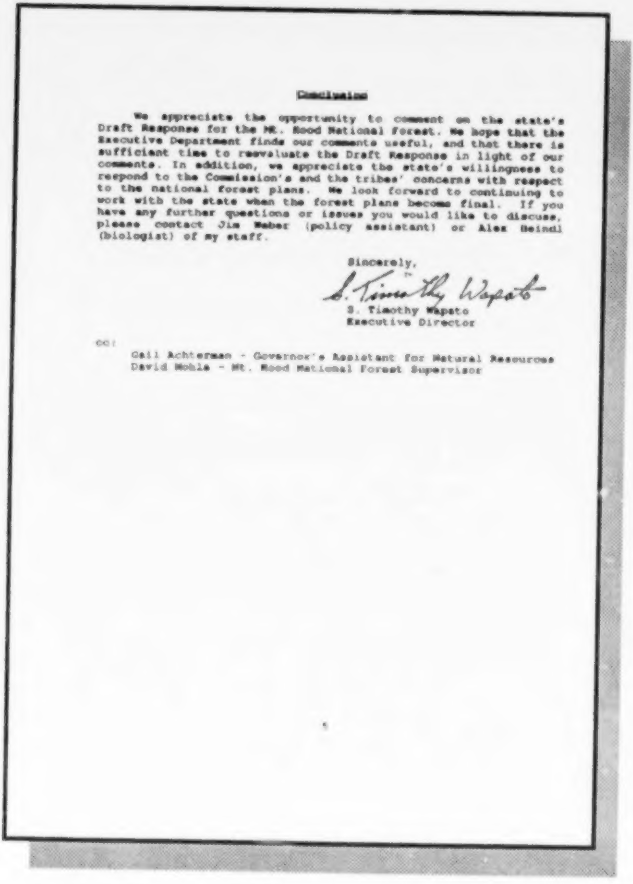


effectiveness of these measures is "insufficient to qualify as the reasoned discussion required by NEPA." Northwest Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986), rev'd on other grounds, ___ U.S. ___, (1988); see also Oregon Natural Resources Council v. Marsh, 820 F.2d 1051, 1055 (9th Cir. 1987). The OSDF's position that the Mt. Hood's satisfaction of Oregon's Forest Practices Act meets the requirements of the Clean Water Act is contrary to the law and should be revised. The Mt. Hood must discuss the effectiveness of BMPs to protect water quality. The state's Response should insist that the Mt. Hood demonstrate how the Forest will comply with Oregon's WQS. What we are all interested in is the bottom line - which is the protection and enhancement of fish habitat.

Additional Concerns

In addition to our comments on the issues discussed above, we have several other concerns. Both the Mt. Hood and the state (per ODFW) focus on the Forest's "westside" fisheries. It is understandable that the state is concerned with the recreational fisheries in the Sandy and Clackamas River Basins. However, several "eastside" watersheds, including the Hood River and Fifteen Mile Creek Basins, have anadromous habitat which should be protected and restored. In fact, Fish and Wildlife Program funds have been spent in these watersheds. Thus, it is important to ensure that these investments are protected and that future opportunities will not be squandered by present management practices. Of particular importance is the amount and intensity of management activities in the upper areas of the watersheds, because the Forest's Proposed Plan affords little protection for high elevation and headwater streams.

The Commission is concerned, as is the state, about the lack of quantitative data in the Mt. Hood Proposed Plan and DEIS, and we agree that more information and analysis is required to make reasoned decisions. We also agree that the Mt. Hood must tie its mitigation and monitoring budgets to the budgets for related management activities. Adequate and accurate monitoring is mandated by NFMA. Proper monitoring is the only way to assure that management activities protect forest resources; management activities should not occur unless the Forest monitors the effects of those activities. We also believe that the Forest needs to provide more direction in its management area standards and guidelines, especially for A9-Key Site Riparian Habitat, B6-Special Emphasis Areas, B7-General Riparian Areas, and the Forest Wide Standards and Guidelines which pertain to fisheries and water quality.



Conclusion

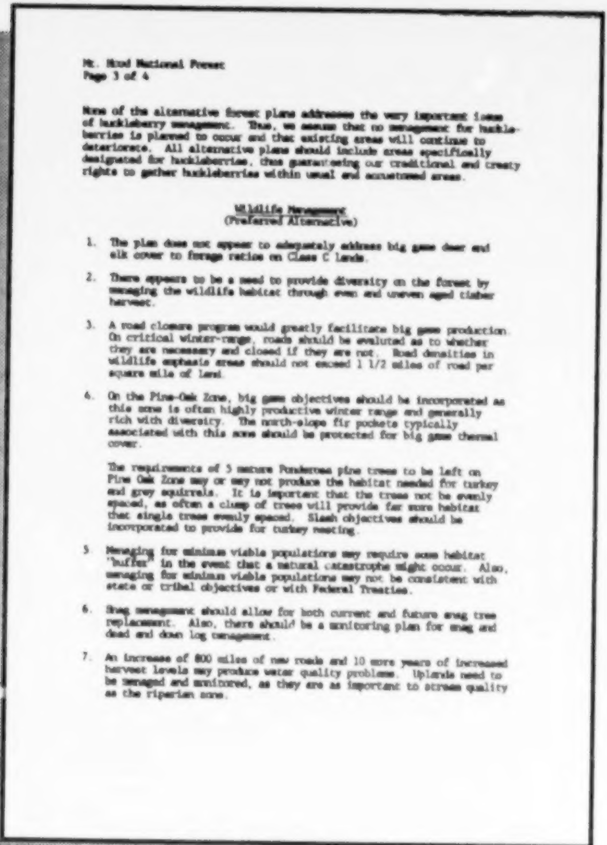
We appreciate the opportunity to comment on the state's Draft Response for the Mt. Hood National Forest. We hope that the Executive Department finds our comments useful, and that there is sufficient time to reevaluate the Draft Response in light of our comments. In addition, we appreciate the state's willingness to respond to the Commission's and the tribes' concerns with respect to the national forest plans. We look forward to continuing to work with the state when the forest plans become final. If you have any further questions or issues you would like to discuss, please contact Jim Weber (policy assistant) or Alex Heindl (biologist) of my staff.

Sincerely,

S. Timothy Wapato

S. Timothy Wapato
Executive Director

cc:
Gail Achterman - Governor's Assistant for Natural Resources
David Mohla - Mt. Hood National Forest Supervisor



None of the alternative forest plans addresses the very important issue of huckleberry management. Thus, we assume that no management for huckleberries is planned to occur and that existing areas will continue to deteriorate. All alternative plans should include areas specifically designated for huckleberries, thus guaranteeing our traditional and treaty rights to gather huckleberries within usual and accustomed areas.

Wildlife Management
(Preferred Alternative)

1. The plan does not appear to adequately address big game deer and elk cover to forage ratios on Class C lands.

2. There appears to be a need to provide diversity on the forest by managing the wildlife habitat through even and uneven aged timber harvest.

3. A road closure program would greatly facilitate big game production. On critical winter-range, roads should be evaluted as to whether they are necessary and closed if they are not. Road densities in wildlife emphasis areas should not exceed 1 1/2 miles of road per square mile of land.

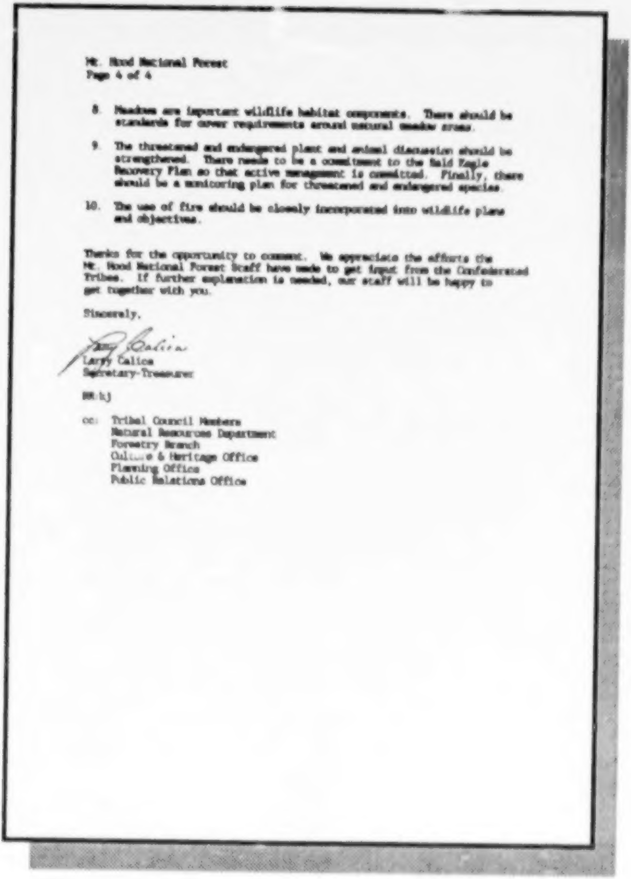
4. On the Pine-Oak Zone, big game objectives should be incorporated as this zone is often highly productive winter range and generally rich with diversity. The north-slope fir pockets typically associated with this zone should be protected for big game thermal cover.

   The requirements of 5 mature Ponderosa pine trees to be left on Pine Oak Zone may or may not produce the habitat needed for turkey and grey squirrels. It is important that the trees not be evenly spaced, as often a clump of trees will provide far more habitat that single trees evenly spaced. Slash objectives should be incorporated to provide for turkey nesting.

5. Managing for minimum viable populations may require some habitat "buffer" in the event that a natural catastrophe might occur. Also, managing for minimum viable populations may not be consistent with state or tribal objectives or with Federal Treaties.

6. Snag management should allow for both current and future snag tree replacement. Also, there should be a monitoring plan for snag and dead and down log management.

7. An increase of 800 miles of new roads and 10 more years of increased harvest levels may produce water quality problems. Uplands need to be managed and monitored, as they are as important to stream quality as the riparian zone.



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8. Meadows are important wildlife habitat components. There should be standards for cover requirements around natural meadow areas.

9. The threatened and endangered plant and animal discussion should be strengthened. There needs to be a commitment to the Bald Eagle Recovery Plan so that active management is committed. Finally, there should be a monitoring plan for threatened and endangered species.

10. The use of fire should be closely incorporated into wildlife plans and objectives.

Thanks for the opportunity to comment. We appreciate the efforts the Mt. Hood National Forest Staff have made to get input from the Confederated Tribes. If further explanation is needed, our staff will be happy to get together with you.

Sincerely,

Larry Calica

Larry Calica
Secretary-Treasurer

BR:kj

cc: Tribal Council Members
Natural Resources Department
Forestry Branch
Culture & Heritage Office
Planning Office
Public Relations Office

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Thirteen State agencies have reviewed the DEIS and LRMP. In addition, we held public meetings in Portland, Estacada, and Hood River to hear what issues relative to the proposed Plan were of special interest to the public. This letter and the detailed agency attachments highlight the State of Oregon's questions, concerns, and recommendations on these documents. Please consider them as you develop your Final Environmental Impact Statement (FEIS).

THE STATE RESPONSE

We recognize the tremendous effort that went into preparing the DEIS and LRMP and we appreciate your staff's help to us as we reviewed these documents. Still, the State of Oregon cannot support any of the alternatives in the DEIS because the planning documents do not provide all the information we believe is needed to make a reasoned decision.

We found your planning documents more difficult to understand than those of other forests we have reviewed. Inconsistent statements on different pages and in different chapters combined with numerous typographical errors inhibited our ability to understand your proposals and detracted from the quality of your documents. In some places information was quite dated. We highlight a few of these problems in this letter and in the attached agency comments. We would be glad to discuss our concerns with you in more detail. You simply must establish better quality control on your planning documents as you move toward the FEIS if your proposals are to be credible.

An important example of inattention to detail is your statement on page 15 of your Reviewer's Guide that, "The State of Oregon has called for the Mt. Hood National Forest to produce about 365 million board feet per year for the next 10 years." Comments in other parts of your planning documents lead us to conclude that you meant to refer here to the Forestry Program for Oregon proposed by the Oregon State Board of Forestry. The Governor, representing the State of Oregon, has not yet taken a position on your Forest Plan.

With your help, we intend to construct our own State alternative for the Forest. We had hoped to do this during the comment period, but difficulties with your analysis and the existing data gaps prevent us from doing so now. We still plan to construct a State alternative in the future and view this letter as a vehicle to help you understand our difficulties with your analysis and the additional data about your Forest that we need. Since your forest is subject to such intense competing demands and since your planning documents raise so many fundamental questions, we believe substantial effort will be required to complete the additional analysis needed for the FEIS. Therefore, we believe that you should consider requesting any planning assistance needed to complete the FEIS in a timely manner.

The rest of this letter highlights our major information needs. In outlining the problems that the agencies uncovered, we emphasize that we wish to work with you in a cooperative manner to solve them. Both the Federal Plans Coordinator and the agency contacts mentioned on the attached list are willing to discuss these comments further, to meet with you to explain our suggestions for clarification and improvement, and to clear up any misunderstandings that we may have.

Our comments on your Plan are organized into four main sections: A) development of alternatives; B) estimation of resource effects; C) estimation of economic effects; D) monitoring; and E) other considerations. Our principal concerns with the DEIS and LRMP relate to your treatment of recreation opportunities and facilities, timber management plans and watershed management.

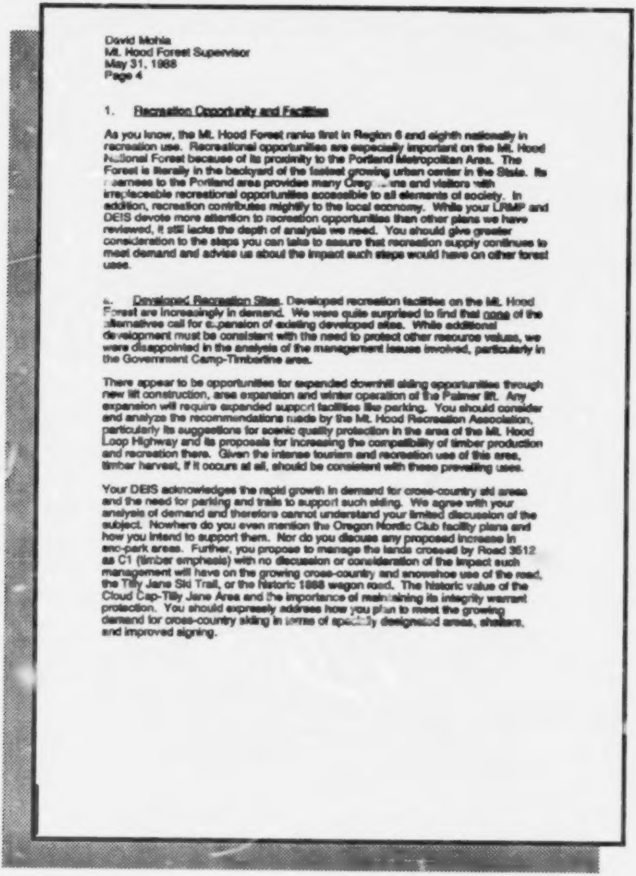
The Mt. Hood National Forest is the most heavily used forest for recreation in the Pacific Northwest. Your planning documents need to give more consideration to recreational uses on the forest, particularly cross country and downhill skiing, the trail system, and protection of backcountry lakes outside of wilderness areas. The visual quality of the Mt. Hood Loop Highway should be protected and the mandates of the Columbia River Gorge National Scenic Area Act must be followed.

The proposed plan would reduce your annual timber sale offerings by about 25 percent from historic levels, and reduce your maximum allowable sales level by about 29 percent. Such reductions could have major impacts on Oregon's economy and must be fully justified. We believe that potential deficiencies in your timberland suitability determinations, your harvest dispersion guidelines, your timber inventory and yield projections, and your consideration of management intensification opportunities may heighten resource conflicts and unnecessarily reduce timber harvest levels.

Water is one of the most valuable resources on the Mt. Hood National Forest. Approximately 40 percent of the people of Oregon drink water from this Forest. The rivers and streams of the Forest also support extraordinary anadromous fish runs critical to our success in meeting regional fish restoration goals. We are concerned that the proposed plan may adversely affect the high degree of water quality necessary for both drinking water and fish. We believe you need to improve your analysis of environmental impacts for key watersheds.

A. Development of Alternatives

We are concerned that your development of alternatives may be unduly restrictive and may increase the conflicts among commodities, amenities and environmental effects. We feel that a wider range of choices should be examined, or that you need to explain more completely why this wider range would not improve the results. Toward that end, we focus in this section on four major outputs and effects from the Forest: 1) recreation opportunity and facilities; 2) watersheds, water quality, and fish production; 3) timber production; and 4) visual quality. In addition, we discuss the need to coordinate your proposed plan with plans of affected communities.



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1. Recreation Opportunity and Facilities

As you know, the Mt. Hood Forest ranks first in Region 6 and eighth nationally in recreation use. Recreational opportunities are especially important on the Mt. Hood National Forest because of its proximity to the Portland Metropolitan Area. The Forest is literally in the backyard of the fastest growing urban center in the State. Its nearness to the Portland area provides many Oregonians and visitors with irreplaceable recreational opportunities accessible to all elements of society. In addition, recreation contributes mightily to the local economy. While your LRMP and DEIS devote more attention to recreation opportunities than other plans we have reviewed, it still lacks the depth of analysis we need. You should give greater consideration to the steps you can take to assure that recreation supply continues to meet demand and advise us about the impact such steps would have on other forest uses.

a. Developed Recreation Sites. Developed recreation facilities on the Mt. Hood Forest are increasingly in demand. We were quite surprised to find that none of the alternatives call for expansion of existing developed sites. While additional development must be consistent with the need to protect other resource values, we were disappointed in the analysis of the management issues involved, particularly in the Government Camp-Timberline area.

There appear to be opportunities for expanded downhill skiing opportunities through new lift construction, area expansion and winter operation of the Palmer lift. Any expansion will require expanded support facilities like parking. You should consider and analyze the recommendations made by the Mt. Hood Recreation Association, particularly its suggestions for scenic quality protection in the area of the Mt. Hood Loop Highway and its proposals for increasing the compatibility of timber production and recreation there. Given the intense tourism and recreation use of this area, timber harvest, if it occurs at all, should be consistent with these prevailing uses.

Your DEIS acknowledges the rapid growth in demand for cross-country ski areas and the need for parking and trails to support such skiing. We agree with your analysis of demand and therefore cannot understand your limited discussion of the subject. Nowhere do you even mention the Oregon Nordic Club facility plans and how you intend to support them. Nor do you discuss any proposed increase in sno-park areas. Further, you propose to manage the lands crossed by Road 3512 as C1 (timber emphasis) with no discussion or consideration of the impact such management will have on the growing cross-country and snowshoe use of the road, the Tilly Jane Ski Trail, or the Historic 1888 wagon road. The historic value of the Cloud Cap-Tilly Jane Area and the importance of maintaining its integrity warrant protection. You should expressly address how you plan to meet the growing demand for cross-country skiing in terms of specially designated areas, shelters, and improved signing.

We are also perplexed by your treatment of developed campgrounds. Management of these sites does not vary by alternative even though you recognize the supply problems. We believe, based on 1983 Statewide Comprehensive Outdoor Recreation Plan (SCORP) data, that more campsites are needed now in the area. Given this situation, you should analyze more carefully the impact of timber harvest on the existing sites. You discuss this in general terms, but we need to know what specific campgrounds will be placed in C1 Management Area and how impacts on campgrounds will be avoided or mitigated.

b. Dispersed Recreation. Trails are needed now to meet recreation demand in the Mt. Hood area. New trails should be built and the existing 300 miles of poor quality trails should be brought up to standards. Beyond this, however, your analysis of impacts of the proposed plan and the alternatives on existing trails must be improved. We cannot figure out how many miles of trails will be impacted by timber harvesting. You should provide this analysis at a minimum. Beyond this, you should realize that people do not think about trails in terms of mileage. Where are these trails that will be impacted? Are they the ones made popular by published trail guides? Are they the ones that are most utilized? We believe you need to add some type of quality evaluation for the trail system so that people can understand whether popular areas are going to be impacted. One way to do this would be to simply compare the trails impacted by the various alternatives with the trails listed in leading published trail guides, but there may be other ways. Certainly, major trailheads into wilderness areas, like the Vista Ridge and Bald Mountain trails and the trail to Ramona Falls, should be explicitly addressed.

In addition to better information on the actual trails impacted, we recommend that you consider the Parks and Recreation Division comments on the need to mitigate the impacts of timber harvesting on trails. They recommend that you show the cumulative impacts of timber harvesting on the recreational characteristics of the land area the trails traverse. They also suggest considering other timber harvest and road building techniques designed to minimize impacts on recreation values. We urge you to consider and evaluate their suggestions.

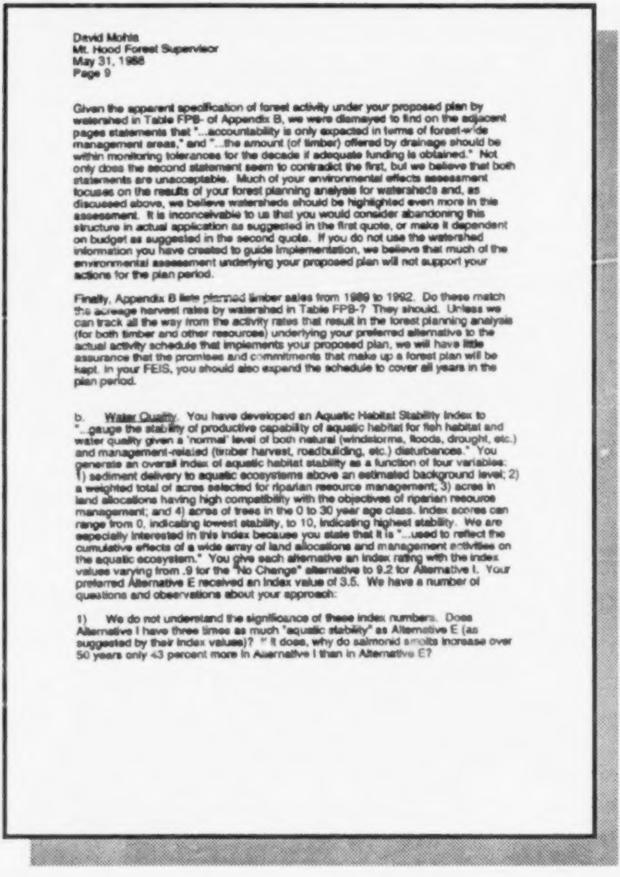
We are also concerned about your limited consideration of recreational use of lakes. Many backcountry lakes on the forest are extremely popular, providing easily accessible, water-based recreation for weekend visitors. These lakes also have important wildlife values. Some of these lakes are in the timber emphasis area under your proposed plan, including such popular spots as Twin Lakes, Clear Lake, Round Lake, and Badger Lake. Presumably the only protection would be a 100 foot buffer along the lakes. Others would be reached by roads--like Veda Lake. We urge you to consider and analyze the special lake management prescriptions included in the Willamette Forest Plan so that we can understand the impact of such management on timber harvest levels.

a. Watershed Recognition in your Forest Planning Analysis. Fundamental to your forest planning analysis is division of the Forest into 15 watersheds. We applaud this geographic resolution and your use of it to portray the outputs and activities associated with each alternative. It can go a long way toward making your proposal comprehensible to the public by enabling them to understand the implications of your proposed plan for each watershed. We wish, however, that you would integrate these watersheds more fully into your assessment of environmental effects and the maps presenting your plan, thus making them even more visible. As an example, you present sediment, fish, and big game production on a forest-wide basis, where it undoubtedly has little meaning to many people, rather than on a watershed basis, or grouped watershed basis, where we could better understand these outputs. Also, your map packet does not overlay your watersheds on the Forest map so that we can develop a detailed understanding of where they are.

Controlling activity rates, such as final harvest, in these watersheds should be a central part of your approach. Doing so ensures that the harvest, and associated roadbuilding, will not concentrate beyond acceptable limits in a particular watershed in some period. You, in fact, do this indirectly by specifying your constraints to control size of harvest unit by watershed.

Even so, some of your watersheds have activity rates assigned to them that may tax their limits. In your DEIS, you point out that the Badger-Jordan Watershed may suffer deterioration under your proposed Plan, partly because of your activities and partly because of activities on intermingled private land. Looking at the results of your proposed plan for the Badger-Jordan Watershed, we find the harvest acres in the plan period proposed at almost double the shown rate for succeeding periods. No wonder the watershed seems headed for trouble! While discussions with your staff indicate that these results may stem from incorrect application of harvest dispersion constraints, they illustrate the need to look at the results watershed-by-watershed for a number of decades into the future and to apply activity rate controls to redistribute activities and lessen the impacts on watersheds that appear under stress.

We can probably all agree that the recognition of watersheds as the key geographic definition for your analysis will improve management only if the forest planning results for these watersheds actually guide actions undertaken on the areas that they cover. Therefore, we are heartened to see your proposed timber harvest acres for the plan period listed by watershed in Table FPB- in Appendix B (Timber Program Activities and Timber Sale Schedule) of your LRMP. These should match the activity schedule produced for the preferred alternative in your forest planning analysis. Do they? You should also present road construction and any other major activities by these same watersheds.

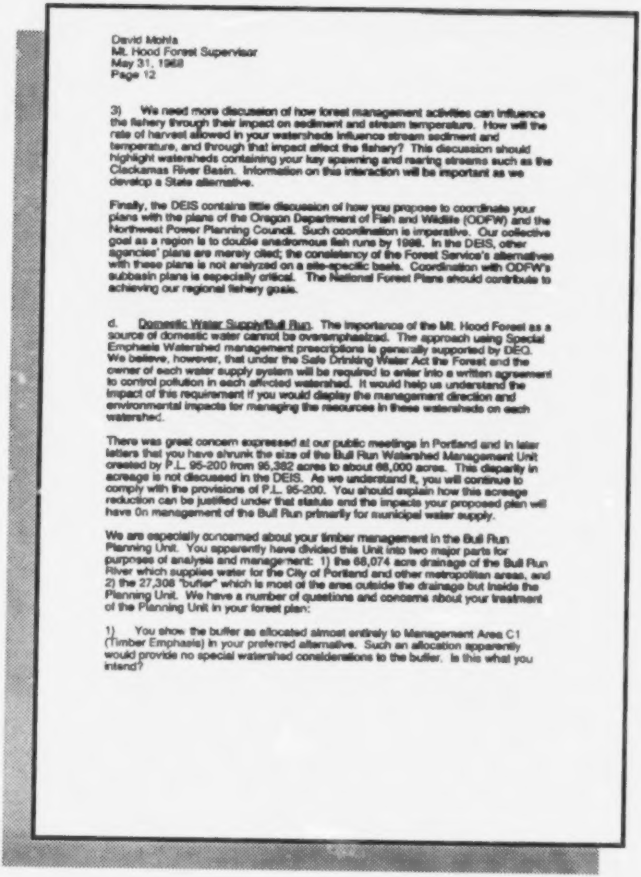


Given the apparent specification of forest activity under your proposed plan by watershed in Table FPB- of Appendix B, we were dismayed to find on the adjacent pages statements that "...accountability is only expected in terms of forest-wide management areas," and "...the amount (of timber) offered by drainage should be within monitoring tolerances for the decade if adequate funding is obtained." Not only does the second statement seem to contradict the first, but we believe that both statements are unacceptable. Much of your environmental effects assessment focuses on the results of your forest planning analysis for watersheds and, as discussed above, we believe watersheds should be highlighted even more in this assessment. It is inconceivable to us that you would consider abandoning this structure in actual application as suggested in the first quote, or make it dependent on budget as suggested in the second quote. If you do not use the watershed information you have created to guide implementation, we believe that much of the environmental assessment underlying your proposed plan will not support your actions for the plan period.

Finally, Appendix B lists planned timber sales from 1989 to 1992. Do these match the acreage harvest rates by watershed in Table FPB-7 They should. Unless we can track all the way from the activity rates that result in the forest planning analysis (for both timber and other resources) underlying your preferred alternative to the actual activity schedule that implements your proposed plan, we will have little assurance that the promises and commitments that make up a forest plan will be kept. In your FEIS, you should also expend the schedule to cover all years in the plan period.

b. Water Quality. You have developed an Aquatic Habitat Stability Index to "...gauge the stability of productive capability of aquatic habitat for fish habitat and water quality given a 'normal' level of both natural (windstorms, floods, drought, etc.) and management-related (timber harvest, roadbuilding, etc.) disturbances." You generate an overall index of aquatic habitat stability as a function of four variables: 1) sediment delivery to aquatic ecosystems above an estimated background level; 2) a weighted total of acres selected for riparian resource management; 3) acres in land allocations having high compatibility with the objectives of riparian resource management; and 4) acres of trees in the 0 to 30 year age class. Index scores can range from 0, indicating lowest stability, to 10, indicating highest stability. We are especially interested in this index because you state that it is "...used to reflect the cumulative effects of a wide array of land allocations and management activities on the aquatic ecosystem." You give each alternative an index rating with the index values varying from .9 for the "No Change" alternative to 9.2 for Alternative I. Your preferred Alternative E received an index value of 3.5. We have a number of questions and observations about your approach:

1) We do not understand the significance of these index numbers. Does Alternative I have three times as much "aquatic stability" as Alternative E (as suggested by their index values)? If it does, why do salmonid smolts increase over 50 years only 43 percent more in Alternative I than in Alternative E?



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3) We need more discussion of how forest management activities can influence the fishery through their impact on sediment and stream temperature. How will the rate of harvest allowed in your watersheds influence stream sediment and temperature, and through that impact affect the fishery? This discussion should highlight watersheds containing your key spawning and rearing streams such as the Clackamas River Basin. Information on this interaction will be important as we develop a State alternative.

Finally, the DEIS contains little discussion of how you propose to coordinate your plans with the plans of the Oregon Department of Fish and Wildlife (ODFW) and the Northwest Power Planning Council. Such coordination is imperative. Our collective goal as a region is to double anadromous fish runs by 1998. In the DEIS, other agencies' plans are merely cited; the consistency of the Forest Service's alternatives with these plans is not analyzed on a site-specific basis. Coordination with ODFW's subbasin plans is especially critical. The National Forest Plans should contribute to achieving our regional fishery goals.

d. Domestic Water Supply/Bull Run. The importance of the Mt. Hood Forest as a source of domestic water cannot be overemphasized. The approach using Special Emphasis Watershed management prescriptions is generally supported by DEQ. We believe, however, that under the Safe Drinking Water Act the Forest and the owner of each water supply system will be required to enter into a written agreement to control pollution in each affected watershed. It would help us understand the impact of this requirement if you would display the management direction and environmental impacts for managing the resources in these watersheds on each watershed.

There was great concern expressed at our public meetings in Portland and in later letters that you have shrunk the size of the Bull Run Watershed Management Unit created by P.L. 95-200 from 95,382 acres to about 68,000 acres. This disparity in acreage is not discussed in the DEIS. As we understand it, you will continue to comply with the provisions of P.L. 95-200. You should explain how this acreage reduction can be justified under that statute and the impacts your proposed plan will have 0n management of the Bull Run primarily for municipal water supply.

We are especially concerned about your timber management in the Bull Run Planning Unit. You apparently have divided this Unit into two major parts for purposes of analysis and management: 1) the 68,074 acre drainage of the Bull Run River which supplies water for the City of Portland and other metropolitan areas, and 2) the 27,308 "buffer" which is most of the area outside the drainage but inside the Planning Unit. We have a number of questions and concerns about your treatment of the Planning Unit in your forest plan:

1) You show the buffer as allocated almost entirely to Management Area C1 (Timber Emphasis) in your preferred alternative. Such an allocation apparently would provide no special watershed considerations to the buffer. Is this what you intend?

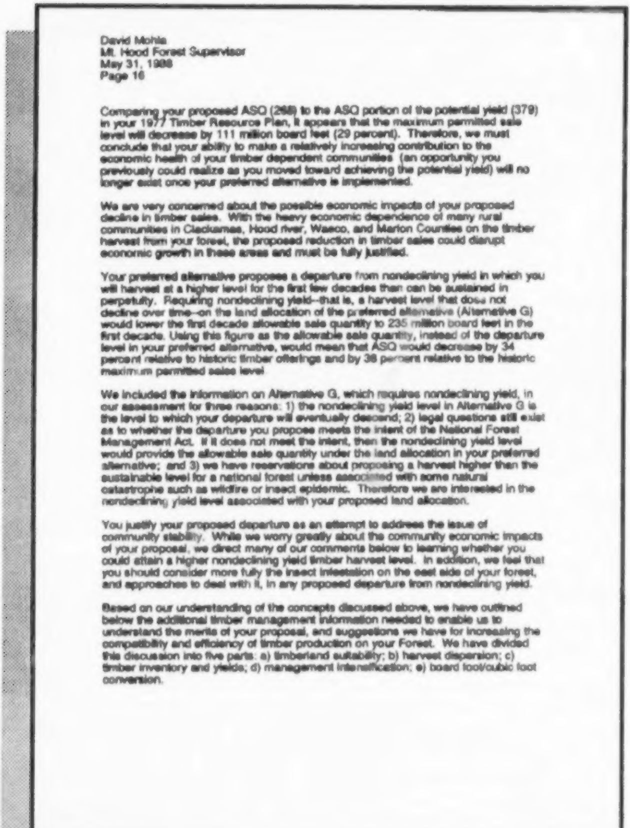
2) As discussed below in the timber section, you propose to sell 21 million board feet/year of green sawtimber from the drainage itself. This would not count toward achievement of your regular timber target, but apparently will be sold and harvested to achieve a number of resource objectives. As you state in your separate Bull Run Planning Unit FEIS, "A basic objective will be converting the Drainage to a more fire resistant condition while maintaining the hydrologic conditions necessary for continuous production of high quality water. This will be accomplished through harvesting timber and fuel treatment in areas planned for timber harvest.

Your LRMP for the Forest states that you have 46,000 acres of tentatively suitable forest land in the drainage and the Bull Run FEIS preferred alternative allocates 35,000 of these acres to timber production on a 106 year rotation. Comparing the board foot harvest per acre per year on either of these acreage basis (21/46,000 = 450 or 21/35,000 = 600) to equivalent bases on the rest of your Forest suggests that the harvest for the Bull Run per acre will approximate the harvest per acre on the remainder of the Forest. Given the primary objective of producing high quality water for Portland on lands within the drainage, we are surprised by these results. Is this 21 million board foot annual harvest sustainable over time? Will its achievement require intensive timber management on part of the drainage? Will it enable maintenance of a high aquatic stability index? Please provide us with the detail calculations underlying the setting of the proposed harvest level.

3. Timber Production

The wood products industry forms the economic backbone of many communities surrounding the Forest such as Sandy, Estacada, Molalla, Hood River, Tygh Valley, and Maupin. In addition, timber receipts from the Forest Service make critical contributions to sound school and road programs in those areas.

Understanding the significance of your proposed timber sales level requires that the public be able to relate your current proposal to your past timber outputs. To help us (and the public) gain this understanding, we developed the following table showing past and proposed timber outputs:



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Comparing your proposed ASQ (268) to the ASQ portion of the potential yield (379) in your 1977 Timber Resource Plan, it appears that the maximum permitted sale level will decrease by 111 million board feet (29 percent). Therefore, we must conclude that your ability to make a relatively increasing contribution to the economic health of your timber dependent communities (an opportunity you previously could realize as you moved toward achieving the potential yield) will no longer exist once your preferred alternative is implemented.

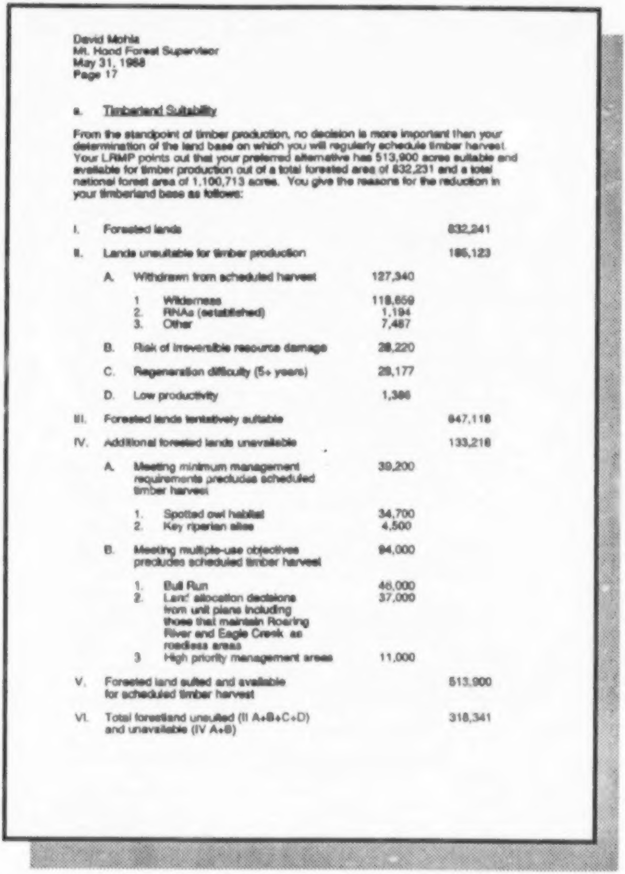
We are very concerned about the possible economic impacts of your proposed decline in timber sales. With the heavy economic dependence of many rural communities in Clackamas, Hood river, Wasco, and Marion Counties on the timber harvest from your forest, the proposed reduction in timber sales could disrupt economic growth in these areas and must be fully justified.

Your preferred alternative proposes a departure from nondeclining yield in which you will harvest at a higher level for the first few decades than can be sustained in perpetuity. Requiring nondeclining yield--that is, a harvest level that does not decline over time--on the land allocation of the preferred alternative (Alternative G) would lower the first decade allowable sale quantity to 235 million board feet in the first decade. Using this figure as the allowable sale quantity, instead of the departure level in your preferred alternative, would mean that ASQ would decrease by 34 percent relative to historic timber offerings and by 38 percent relative to the historic maximum permitted sales level

We included the information on Alternative G, which requires nondeclining yield, in our assessment for three reasons: 1) the nondeclining yield level in Alternative G is the level to which your departure will eventually descend; 2) legal questions still exist as to whether the departure you propose meets the intent of the National Forest Management Act. If it does not meet the intent, then the nondeclining yield level would provide the allowable sale quantity under the land allocation in your preferred alternative; and 3) we have reservations about proposing a harvest higher than the sustainable level for a national forest unless associated with some natural catastrophe such as wildfire or insect epidemic. Therefore we are interested in the nondeclining yield level associated with your proposed land allocation.

You justify your proposed departure as an attempt to address the issue of community stability. While we worry greatly about the community economic impacts of your proposal, we direct many of our comments below to learning whether you could attain a higher nondeclining yield timber harvest level. In addition, we feel that you should consider more fully the insect infestation on the east side of your forest, and approaches to deal with it, in any proposed departure from nondeclining yield.

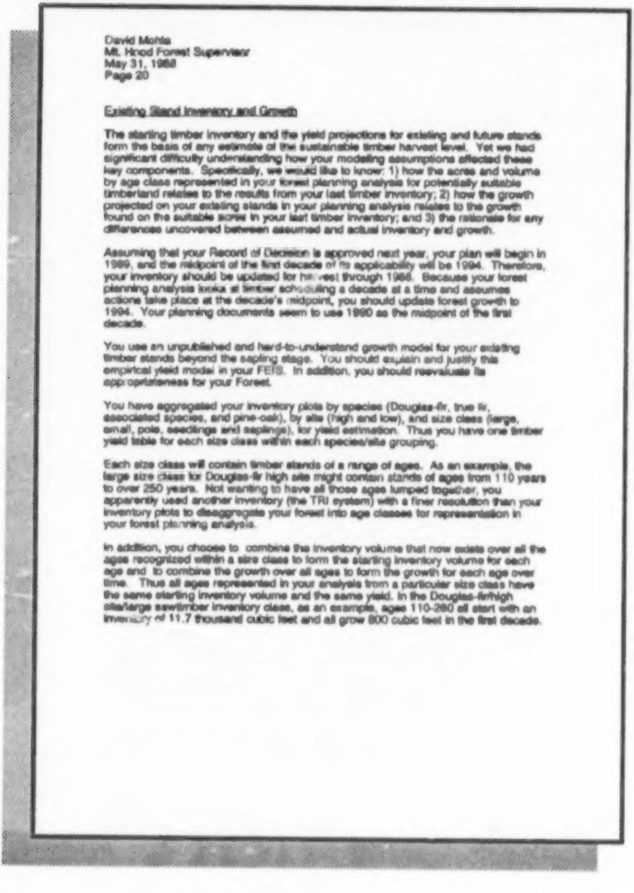
Based on our understanding of the concepts discussed above, we have outlined below the additional timber management information needed to enable us to understand the merits of your proposal, and suggestions we have for increasing the compatibility and efficiency of timber production on your Forest. We have divided this discussion into five parts: a) timberland suitability; b) harvest dispersion; c) timber inventory and yields; d) management intensification; e) board foot/cubic foot conversion.



a. Timberland Suitability

From the standpoint of timber production, no decision is more important than your determination of the land base on which you will regularly schedule timber harvest. Your LRMP points out that your preferred alternative has 513,900 acres suitable and available for timber production out of a total forested area of 832,231 and a total national forest area of 1,100,713 acres. You give the reasons for the reduction in your timberland base as follows:

I.	Forested lands			832,241
II.	Lands unsuitable for timber production			186,123
	A.	Withdrawn from scheduled harvest	127,340	
		1 Wilderness	118,659	
		2. RNAs (established)	1,194	
		3. Other	7,487	
	B.	Risk of irreversible resource damage	28,220	
	C.	Regeneration difficulty (5+ years)	29,177	
	D.	Low productivity	1,386	
III.	Forested lands tentatively suitable			646,118
IV.	Additional forested lands unavailable			133,218
	A.	Meeting minimum management requirements precludes scheduled timber harvest	39,200	
		1. Spotted owl habitat	34,700	
		2. Key riparian sites	4,500	
	B.	Meeting multiple-use objectives precludes scheduled timber harvest	94,000	
		1. Bull Run	46,000	
		2. Land allocation decisions from unit plans including those that maintain Roaring River and Eagle Creek as roadless areas	37,000	
		3 High priority management areas	11,000	
V.	Forested land suited and available for scheduled timber harvest			513,900
VI.	Total forestland unsuited (II A+B+C+D) and unavailable (IV A+B)			318,341



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Existing Stand Inventory and Growth

The starting timber inventory and the yield projections for existing and future stands form the basis of any estimate of the sustainable timber harvest level. Yet we had significant difficulty understanding how your modeling assumptions affected these key components. Specifically, we would like to know: 1) how the acres and volume by age class represented in your forest planning analysis for potentially suitable timberland relates to the results from your last timber inventory; 2) how the growth projected on your existing stands in your planning analysis relates to the growth found on the suitable acres in your last timber inventory; and 3) the rationale for any differences uncovered between assumed and actual inventory and growth.

Assuming that your Record of Decision is approved next year, your plan will begin in 1989, and the midpoint of the first decade of its applicability will be 1994. Therefore, your inventory should be updated for harvest through 1988. Because your forest planning analysis looks at timber scheduling a decade at a time and assumes actions take place at the decade's midpoint, you should update forest growth to 1994. Your planning documents seem to use 1990 as the midpoint of the first decade.

You use an unpublished and hard-to-understand growth model for your existing timber stands beyond the sapling stage. You should explain and justify this empirical yield model in your FEIS. In addition, you should reevaluate its appropriateness for your Forest.

You have aggregated your inventory plots by species (Douglas-fir, true fir, associated species, and pine-oak), by site (high and low), and size class (large, small, pole, seedlings and saplings), for yield estimation. Thus you have one timber yield table for each size class within each species/site grouping.

Each size class will contain timber stands of a range of ages. As an example, the large size class for Douglas-fir high site might contain stands of ages from 110 years to over 250 years. Not wanting to have all those ages lumped together, you apparently used another inventory (the TRI system) with a finer resolution than your inventory plots to disaggregate your forest into age classes for representation in your forest planning analysis.

In addition, you choose to combine the inventory volume that now exists over all the ages recognized within a size class to form the starting inventory volume for each age and to combine the growth over all ages to form the growth for each age over time. Thus all ages represented in your analysis from a particular size class have the same starting inventory volume and the same yield. In the Douglas-fir/high site/large sawtimber inventory class, as an example, ages 110-260 all start with an inventory of 11.7 thousand cubic feet and all grow 800 cubic feet in the first decade.

This approach could encounter a number of difficulties:

1) While you represent all ages in a size class as having the same cubic volume per acre, we would actually expect that the older age classes would contain more volume per acre and the younger age classes less. Because the dispersion constraints (as discussed above) control acres harvested, rather than volume, your approach of representing all acres as having the same volume/acre does not allow your analysis to search for stands that have the higher volumes per acre. Representing the "true" volume in each age class could allow a higher volume harvest in the first decade under the departure in your preferred alternative or under a nondeclining yield analysis that bumped up against the dispersion constraints. You should prove that your aggregation procedures have no impact on the results or recalculate your volume per acre by age class in keeping with more professionally acceptable procedures.

2) Your 1977 Timber Resource Plan was based on the same inventory used in your current planning analysis. In the 1977 plan, you separated your mature stands (over 100 years) into three categories for analysis, while your current analysis recognizes only two categories for inventory and yield development. Why? We feel that you should consider recognizing the three categories of the previous plan to overcome, to some degree, problems discussed here.

3) We do not understand what controls you established to ensure a match between the inventory by age class you obtained from the TRI records and the inventory off your plots that underlie your estimates of starting timber inventory and yield. Combining inventory information from two independent sources is fraught with potential problems. We ask that you either better justify this approach or reconsider its use.

4) As we understand it, the results of your recent reinventory of the timber resources on your Forest will be available by year's end. We ask that you consider using this new information as the basis of your analysis in the FEIS, especially given the problems that have surfaced in your current approach. If you do not use the new inventory in preparation of your FEIS, how and when will you update your Forest Plan to account for this new information?

Managed Yields

Requiring a nondeclining yield timber harvest on the land allocation of the proposed plan as is done in Alternative G, the harvest schedule for the Mt. Hood National Forest projects a harvest level that starts at long-run sustained yield (growth of the future forest). In fact, the schedule indicates a "surplus" of timber in existing stands allocated to timber production which means that those stands (including growth) can provide more volume than needed to maintain the harvest at the long-term sustained yield (LTSY) until young growth stands of the future become available for harvest. Increasing the starting harvest level, under nondeclining yield, therefore, requires increasing the long run sustained yield--increasing the growth of the future forest. You need to demonstrate that you have not unintentionally constrained this LTSY below what it could otherwise be. Toward that end, we feel that you should consider the following questions:

Due to the increased use of off-road vehicles and mountain bicycles, we agree that it is important to develop a policy on the use of these vehicles. Please see the Parks Division comments for specific concerns about your plan. One suggestion you may want to consider was made on the Willamette Plan--a driving guide. This would involve developing and printing special maps aimed at driving or cycling recreationists, whether off-road vehicle users or those using developed roads. If such a map were developed, it could help minimize conflicts among forest users and improve drivers' recreational experiences.

c. Shortfalls in Meeting Recreation Demand. The major potential shortfall in meeting recreation demand on the Mt. Hood National Forest is in opportunities for semi-primitive motorized (SPM) and nonmotorized (SPNM) recreation. The shortfall is especially critical since many existing areas that will be lost under the proposed plan are those most accessible to our growing urban population. Substitutes for these areas will be hard to find. Because of this, we urge you to develop a Region 6 plan describing the cumulative impacts of the proposed forest plans on the availability of SPM and SPNM recreation opportunities. The Parks and Recreation Division has additional specific suggestions that you should consider for mitigating the impact of these shortfalls.

d. Special Interest Areas. Several of the alternatives propose designating additional Special Interest Areas. We did not find discussion of the criteria guiding this type of designation, what effect this designation might have on use levels, and how these areas will be developed and interpreted. We believe you should develop marked, readily-accessible nature trails with interpretative information and displays. This could be very beneficial to many recreational users of the Forest who are not interested in strenuous recreation, but would like an educational experience. Designation of special interest areas might also be appropriate to provide greater semi-primitive recreation opportunities. Please discuss in the FEIS what you propose to do and its benefits and costs.

In designating such areas, you should use logical boundaries, like roads. We have serious concerns about areas, like Grouse Point near the proposed Roaring River special Interest Area, where the boundary cuts through an unroaded area rather than following the existing road. Other examples of peculiar boundaries in the preferred alternative are the patches of timber emphasis at the end of Road 538 on the Salmon River, and at the Twin Springs Campground near Plaza Lake. Do these boundaries make sense?

e. Columbia River Gorge National Scenic Area. We recognize that the Management Plan for the Columbia River Gorge National Scenic Area is being separately developed. Nonetheless, you have an obligation to consider in your plans the purposes of the Act and the extremely high recreation demand in the Scenic Area. There was overwhelming public concern expressed at our meetings about your proposed timber emphasis in the area near Nesmith Point and your viewshed management of Larch Mountain and the Multnomah Basin. In the interim management guidelines of your own agency, Larch Mountain is designated as a key viewing area. Famous highway builder Sam Lancaster, was more eloquent, calling it "God's grandstand." We urge you to evaluate carefully the Columbia River Gorge Commission comments on this issue and to consult with the Forest Service's own Scenic Area staff to assure consistency with the National Scenic Area Act.

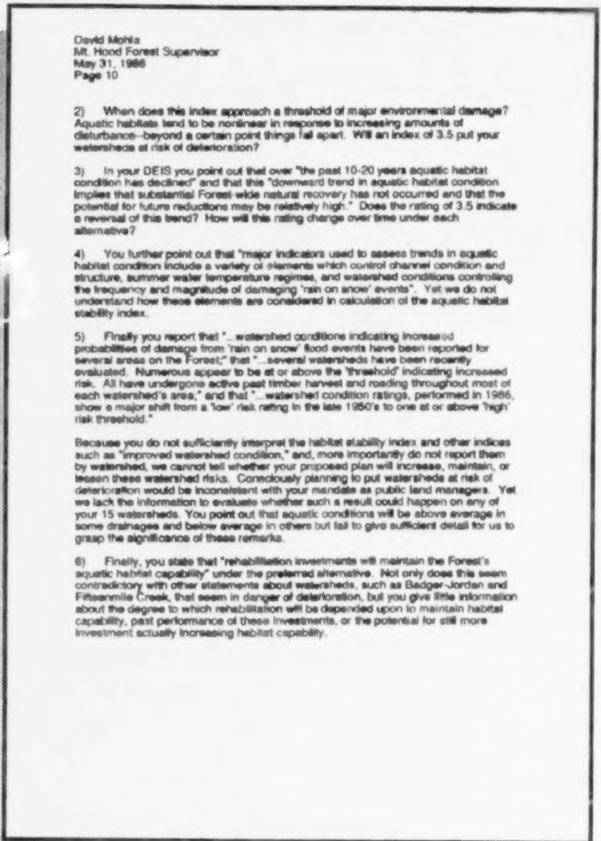
2. Watersheds, Water Quality and Fish Production

No output from the Mt. Hood National Forest is more valuable than the water you produce. No protection for your resources is more important than that which you give your streams and watersheds. Municipal, recreational and fish and wildlife demands ensure that the water produced on your Forest will be used over and over again as it flows to the sea.

Approximately 40 percent of the people in Oregon including Portland, other cities, and water districts--drink water originating on the Forest. Maintaining the water quality in municipal watersheds must be a major objective of your Plan and any actions you propose on those areas should be undertaken only after detailed consultation with the affected communities.

Water provides the focus for much recreational use of your Forest whether it is a swimmer in a mountain lake on a hot July day, a drift boater floating the Clackamas in search of winter steelhead, or a tourist admiring Multnomah Falls. The salmon and steelhead fishery relies on the purity and temperature of many streams on the Forest as a fundamental ingredient in the maintenance and enhancement of these vital fish stocks.

We divide our discussion of watersheds, water quality and the fishery into three sections: a) watershed recognition in your forest planning analysis; b) water quality; c) fish production; and d) domestic water supply/Bull Run. One overall suggestion we heard at our public meetings should be considered--separately addressing water quality and fish habitat. Blending them seems to confuse your analysis and discussion.



2) When does this index approach a threshold of major environmental damage? Aquatic habitats tend to be nonlinear in response to increasing amounts of disturbance--beyond a certain point things fall apart. Will an index of 3.5 put your watersheds at risk of deterioration?

3) In your DEIS you point out that over "the past 10-20 years aquatic habitat condition has declined" and that this "downward trend in aquatic habitat condition implies that substantial Forest-wide natural recovery has not occurred and that the potential for future reductions may be relatively high." Does the rating of 3.5 indicate a reversal of this trend? How will this rating change over time under each alternative?

4) You further point out that "major indicators used to assess trends in aquatic habitat condition include a variety of elements which control channel condition and structure, summer water temperature regimes, and watershed conditions controlling the frequency and magnitude of damaging 'rain on snow' events". Yet we do not understand how these elements are considered in calculation of the aquatic habitat stability index.

5) Finally you report that "...watershed conditions indicating increased probabilities of damage from 'rain on snow' flood events have been reported for several areas on the Forest;" that "...several watersheds have been recently evaluated. Numerous appear to be at or above the 'threshold' indicating increased risk. All have undergone active past timber harvest and roading throughout most of each watershed's area;" and that "...watershed condition ratings, performed in 1986, show a major shift from a 'low' risk rating in the late 1950's to one at or above 'high' risk threshold."

Because you do not sufficiently interpret the habitat stability index and other indices such as "improved watershed condition," and, more importantly do not report them by watershed, we cannot tell whether your proposed plan will increase, maintain, or lessen these watershed risks. Consciously planning to put watersheds at risk of deterioration would be inconsistent with your mandate as public land managers. Yet we lack the information to evaluate whether such a result could happen on any of your 15 watersheds. You point out that aquatic conditions will be above average in some drainages and below average in others but fail to give sufficient detail for us to grasp the significance of these remarks.

6) Finally, you state that "rehabilitation investments will maintain the Forest's aquatic habitat capability" under the preferred alternative. Not only does this seem contradictory with other statements about watersheds, such as Badger-Jordan and Fifteenmile Creek, that seem in danger of deterioration, but you give little information about the degree to which rehabilitation will be depended upon to maintain habitat capability, past performance of these investments, or the potential for still more investment actually increasing habitat capability.

These results, so far as we can understand them, concern us. You must make every effort to redistribute the activities to lessen any risks to your watersheds. As an example, you should present the benefits and costs of constraining your forest planning analysis to require that 1) none of your watersheds falls into a high risk category; and 2) that all of your watersheds at least equal the forest-wide average aquatic habitat index of the preferred alternative. In addition, you need to demonstrate these results over a number of decades into the future to insure that unacceptable cumulative effects do not build over time. This will require careful consideration of the cumulative effects of your proposed management activities in water quality. Fortunately, your forest planning analysis is amenable to this kind of critically needed assessment. Because you recognize your watersheds as building blocks in your forest planning analysis, you should be able to easily model controls on the rate of activities that occur in them and do this modeling with assurance that you are finding efficient solutions to these difficulties, thus minimizing the impact on other outputs such as timber harvest.

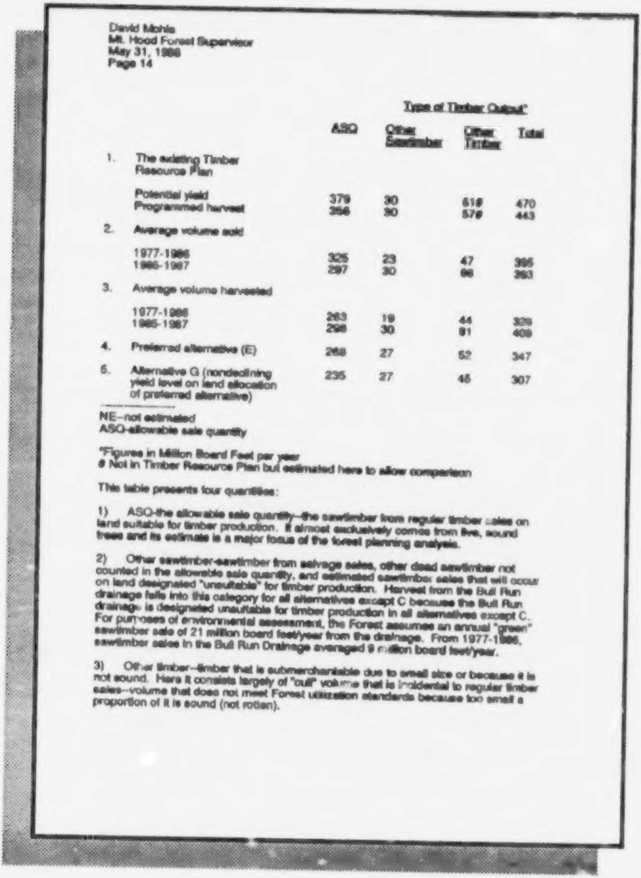
c. The Fishery. Few National Forests in Oregon exceed the Mt Hood in terms of the importance of the salmon and steelhead produced in its waters. The demand for these fish far exceeds the supply. The Forest makes major contributions to Columbia River fish supplies, both wild and hatchery spawned. Some of the last wild fish runs come up your Forest streams. Five hatcheries that rely on your water produce millions of smolts a year. Many thousands of recreation days are spent on the Forest each year pursuing these fish and resident trout. Maintaining and enhancing the salmon, steelhead, and resident trout fishery should be a major focus of your Plan.

You estimate habitat capability for fish with the Legal Trout Index and the Smolt Habitat Capability Index. These, in turn, apparently key off the Aquatic Habitat Index. Among all the alternatives (except the No Change alternative), the Trout Index varies only 23 percent over five decades and the Smolt Index varies only 50 percent. You note that the index values "...require full funding implantation and maintenance of mitigation measures and rehabilitation work for watershed and riparian areas."

These statements in your DEIS lead us to the following points:

1) Investments in fish structures and facilities can certainly affect the capacity of the forest as a fish producer, but we are uncertain of the relationship between these investments and the fish production assumed in the preferred alternative. This analysis should be expanded substantially. We need to know the opportunities here. As noted above, you should document the past performance of such structures and the degree to which the proposed plan depends on them to maintain the fishery.

2) We could not find a quantitative assessment of the benefits and costs associated with different combinations of instream investment and riparian policy. As an example, we need to know the least cost way, in terms of timber production impact, of improving the fishery beyond the level in your proposed plan.



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		Type of Timber Output*			
		ASQ	Other Sawtimber	Other Timber	Total
1.	The existing Timber Resource Plan				
	Potential yield	379	30	61#	470
	Programmed harvest	356	30	57#	443
2.	Average volume sold				
	1977-1986	325	23	47	395
	1985-1987	297	30	66	393
3.	Average volume harvested				
	1977-1986	263	19	44	326
	1985-1987	298	30	81	409
4.	Preferred alternative (E)	268	27	52	347
5.	Alternative G (nondeclining yield level on land allocation of preferred alternative)	235	27	45	307

NE--not estimated
ASQ-allowable sale quantity

*Figures in Million Board Feet per year
Not in Timber Resource Plan but estimated here to allow comparison

This table presents four quantities:

1) ASQ-the allowable sale quantity--the sawtimber from regular timber sales on land suitable for timber production. It almost exclusively comes from live, sound trees and its estimate is a major focus of the forest planning analysis.

2) Other sawtimber-sawtimber from salvage sales, other dead sawtimber not counted in the allowable sale quantity, and estimated sawtimber sales that will occur on land designated "unsuitable" for timber production. Harvest from the Bull Run drainage falls into this category for all alternatives except C because the Bull Run drainage is designated unsuitable for timber production in all alternatives except C. For purposes of environmental assessment, the Forest assumes an annual "green" sawtimber sale of 21 million board feet/year from the drainage. From 1977-1986, sawtimber sales in the Bull Run Drainage averaged 9 million board feet/year.

3) Other timber--timber that is submerchantable due to small size or because it is not sound. Here it consists largely of "cull" volume that is incidental to regular timber sales--volume that does not meet Forest utilization standards because too small a proportion of it is sound (not rotten).

4) Total--the sum of allowable sale quantity, other sawtimber, and other timber--now called "timber sale program quantity" by the Forest Service.

These terms need to be carefully defined and used, as you know.

The existing Timber Resource Plan has guided timber sales on the Forest since 1977. It is represented here by two quantities: 1) potential yield and 2) programmed harvest. Potential yield sets the ceiling on the amount of sawtimber volume (ASQ plus other sawtimber) that can be offered under the 1977 plan. Programmed harvest sets the target for sawtimber volume under the 1977 plan, considering likely budgets and an estimated yield from lands marginal for timber production. It can be less than or equal to potential yield, and here is 23 million board feet less than potential yield in terms of both ASQ and ASQ plus other sawtimber. The programmed harvest provided the basis for the actual quantities offered and sold during the 1977 plan period.

We concentrate our discussion on the ASQ because this output produces most of the employment, income and county revenues from timber production. Here, the ASQ portion of the programmed yield in your existing plan is 356 million board feet and the average annual ASQ volume actually sold was 325 million board feet during 1977-86. Thus sales achieved 92 percent of their target.

Timber sales set an upper limit on timber harvest, and timber buyers have a number of years to harvest the timber after purchase. Thus harvest tends to fluctuate with market conditions and purchaser raw material needs. Looking at the last 10 years, average ASQ harvest (263) fell well short of average ASQ sales (325) as the deep recession of the early 1980's made it difficult for timber buyers to harvest profitably the timber they had purchased. Looking at the last three years, though, ASQ harvest (298) was higher as good lumber and plywood markets returned, with last year's ASQ harvest of approximately 308 million board feet being the highest harvest in recent memory. In a period long enough to include the ups and downs of wood products markets, harvests and sales should come into balance.

Your forest plan proposes an ASQ of 268 million board feet/year of sawtimber and a total timber sale program quantity of 347 million board feet. This proposed sale level merges the features of potential yield and programmed harvest. This is both an upper limit and a target. Thus 268 million feet is both the intended sale quantity and the maximum permitted sale quantity for the ASQ portion of total timber output.

If our analysis of these data and your definition is correct, we can reach some important conclusions. First, comparing your proposed ASQ (268) to the ASQ portion of the programmed harvest (356) in your 1977 Timber Resource Plan, it appears that you intend to offer for sale in the future approximately 88 million board feet (25 percent) less volume than you offered in the past. In addition, as pointed out above, you were generally successful in selling your programmed harvest in the past, so we count on you to have the same success in the future. Therefore, we conclude that the proposed ASQ in your preferred alternative could provide somewhat (25 percent) less opportunity to contribute to the economic health of your timber dependent communities compared to your existing plan. The actual contribution that will be made, of course, depends in part on the level and cycle of demand for wood products and the productivity and efficiency of the wood products industry.

In total, then, your preferred alternative would make 61 percent (513,900 acres out of 832,231 acres) of your forested land available--79 percent of your tentatively suitable land--for scheduled timber harvest.

Your definition of the lands tentatively suitable for timber production could both reduce the timber output possible from your forest and heighten the conflict on those lands that are suitable for both timber and other uses. The DEIS points out two major reasons for these reductions beyond those lands withdrawn from scheduled timber harvest : 1) lands that have the risk of irreversible resource damage (28,220) and 2) lands where you cannot be sure that reforestation can be achieved in five years (28,117).

The acreage declared unsuitable due to regeneration difficulty (four percent of your forestland outside of Wilderness) especially concerns us. We could not find evidence that your analysis had creatively looked beyond the problems encountered with past practices in assessing potential for reforestation success. We believe that the forest industry is now able to regenerate most of its lower elevation lands similar to yours. We urge that you reevaluate your lands declared unsuitable due to regeneration difficulty, incorporating the latest research results and successes on similar sites by other owners.

We are also interested in better understanding of how you made a determination that 28,117 acres were unsuitable due to risk of irreversible resource damage. Your DEIS identifies 53,000 acres of active and stabilized earth-flow areas on the Forest. Of the total acreage, you state that 18,900 acres of active earth-flow are suitable for timber harvest. We have great concern over your declaration of active earth-flow acres as suitable for timber production. How have you determined that these acres are not in danger of irreversible resource damage? Are all 28,117 acres earth-flow areas or are there other risks of irreversible resource damage?

b. Harvest Dispersion

The regulations guiding implementation of the National Forest Management Act require that even-aged management keep openings created through clearcut or shelterwood harvest at or below 60 acres in size. You represent this restriction in your analysis in two ways: 1) an upper limit on the acres harvested in each of the 15 watersheds recognized in the analysis, and 2) an upper limit on acres harvested in each "analysis area" in each of the first five periods. An "analysis area" contains stands of similar characteristics scattered over a watershed, such as all the high site stands of Douglas-fir on gentle slopes in the Sandy River drainage.

You developed the maximum harvest rates for each watershed based on a sample analysis of how many "logical" harvest units could be placed in a drainage in a period while meeting the requirement that adjacent units were not cut (to keep harvest unit size below 60 acres). This analysis showed that not more than one third of each watershed could be cut in a decade. You then also applied this maximum rate to each analysis area while blending into the calculation the amount of cutover land that already existed in the drainage. This gave each analysis area unique upper limits on harvest rate for each of the first five periods. In both cases, by watershed and analysis area, suitable forest land was used as the base in the calculation of permitted harvest rates.

Under some alternatives, the analysis area portion of these "dispersion constraints" controls the timber harvest level. Therefore, they must be carefully examined and justified. We have a number of problems with, and questions about, your portrayal of the dispersion constraints in your analysis:

1) Your formulation of analysis area dispersion constraints inadvertently included both intermediate harvest and final harvest. As we have discussed, this formulation is both incorrect and is a partial explanation of the low level of commercial thinning selected in the first few decades in your forest planning analysis. We urge you to correct this problem.

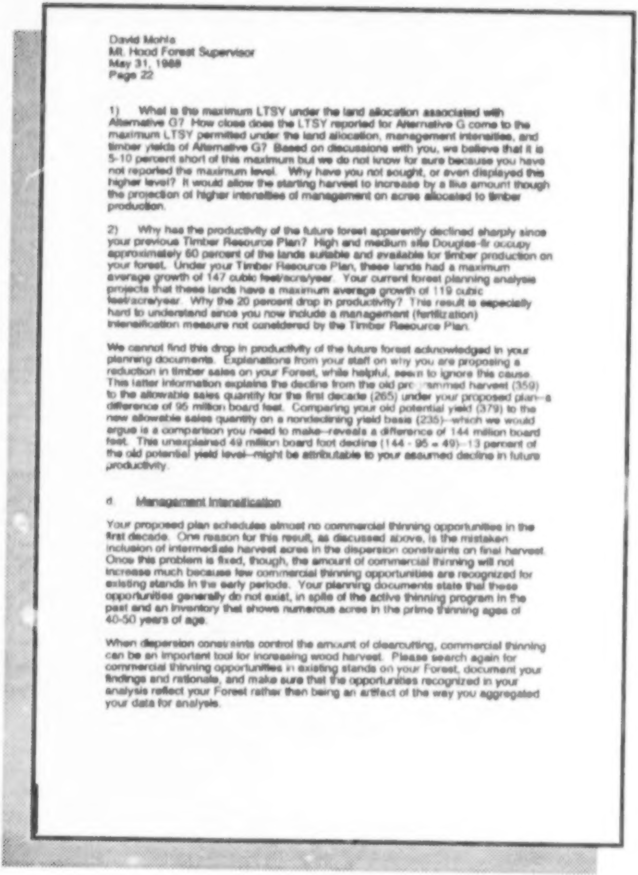
2) The analysis areas do not represent a contiguous block of land, such as watersheds, but rather represent stands of similar characteristics scattered across a drainage. Since these stands are not adjacent, why are dispersion constraints placed on them as if they were?

3) The analysis area dispersion constraints vary from period to period in terms of the maximum harvest permitted. Why?

4) Your unsuitable timberland--39 percent of the total forest land--can act as buffers between harvest units to the degree these unsuitable lands are scattered among the suitable lands. Yet your assessment of the maximum harvest rate assumes that all forestland was suitable for harvest within a drainage. You should redo this assessment recognizing unsuitable land in your sample areas to see if that would change the maximum harvest rate allowed on suitable land.

c. Timber Inventory and Yield

Your planning documents identify two major types of controls on the first decade timber harvest under the land allocation associated with your proposed plan: 1) dispersion constraints (discussed above) set the upper limit on first decade harvest under your proposed departure from nondeclining yield (Alternative E- the preferred Alternative), and 2) long-term sustained yield sets an upper limit on first decade harvest under nondeclining yield (Alternative G). Each of these constraints relates to a different aspect of timber inventory and growth: the effect of constraints to disperse the harvest in the first few decades depends significantly on how the existing stand inventory and growth are represented in the problem; the effect of a constraint that the harvest cannot rise above long-term sustained yield depends significantly on how future stand yields are represented in the problem. Thus we will discuss these two factors separately.



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1) What is the maximum LTSY under the land allocation associated with Alternative G? How close does the LTSY reported for Alternative G come to the maximum LTSY permitted under the land allocation, management intensities, and timber yields of Alternative G? Based on discussions with you, we believe that it is 5-10 percent short of this maximum but we do not know for sure because you have not reported the maximum level. Why have you not sought, or even displayed this higher level? It would allow the starting harvest to increase by a like amount though the projection of higher intensities of management on acres allocated to timber production.

2) Why has the productivity of the future forest apparently declined sharply since your previous Timber Resource Plan? High and medium site Douglas-fir occupy approximately 60 percent of the lands suitable and available for timber production on your forest. Under your Timber Resource Plan, these lands had a maximum average growth of 147 cubic feet/acre/year. Your current forest planning analysis projects that these lands have a maximum average growth of 119 cubic feet/acre/year. Why the 20 percent drop in productivity? This result is especially hard to understand since you now include a management (fertilization) intensification measure not considered by the Timber Resource Plan.

We cannot find this drop in productivity of the future forest acknowledged in your planning documents. Explanations from your staff on why you are proposing a reduction in timber sales on your Forest, while helpful, seem to ignore this cause. This latter information explains the decline from the old programmed harvest (359) to the allowable sales quantity for the first decade (265) under your proposed plan—a difference of 95 million board feet. Comparing your old potential yield (379) to the new allowable sales quantity on a nondeclining yield basis (235)—which we would argue is a comparison you need to make—reveals a difference of 144 million board feet. This unexplained 49 million board foot decline (144 - 95 = 49)—13 percent of the old potential yield level—might be attributable to your assumed decline in future productivity.

d. **Management Intensification**

Your proposed plan schedules almost no commercial thinning opportunities in the first decade. One reason for this result, as discussed above, is the mistaken inclusion of intermediate harvest acres in the dispersion constraints on final harvest. Once this problem is fixed, though, the amount of commercial thinning will not increase much because few commercial thinning opportunities are recognized for existing stands in the early periods. Your planning documents state that these opportunities generally do not exist, in spite of the active thinning program in the past and an inventory that shows numerous acres in the prime thinning ages of 40-50 years of age.

When dispersion constraints control the amount of clearcutting, commercial thinning can be an important tool for increasing wood harvest. Please search again for commercial thinning opportunities in existing stands on your Forest, document your findings and rationale, and make sure that the opportunities recognized in your analysis reflect your Forest rather than being an artifact of the way you aggregated your data for analysis.

- Board Foot/Cubic Foot Conversion

While your analysis uses cubic feet as the basic measure of timber volume, you still sell timber in board feet, and the board foot equivalent of your proposed cubic foot analysis is of major interest to the forest industry and the public. We also have great interest in the most accurate ratio being used to convert your cubic foot harvest to its board foot equivalent.

We are deeply disappointed in the approach you have taken to make this calculation: you use a standard conversion factor irrespective of the size of timber harvested. As an example the same factor (5.07) is used for alternative H which cuts no old growth in the first decade as for alternative C which cuts significant old growth in the first period.

Since this ratio increases as the size (age) of the trees harvested increases, we do not understand your use of a standard ratio. In addition, you now use a significantly lower ratio (5.07) than employed in your 1977 Timber Resource Plan (5.47). Applying the ratio from your 1977 Plan would increase the timber harvest volume in your preferred alternative from the 265 million board feet you now report to 286 million board feet.

We do not believe that a blanket ratio should be used, whether it be 5.07, 5.47, or 5.68 as some suggest. Rather, we believe that you should embed the board foot/cubic foot ratio for each age class into your forest planning analysis such that the resulting board foot harvest of any alternative will naturally be produced as part of your analysis and will reflect the board feet on the timber volume that would be harvested under each alternative. You have these types of ratios estimated in your 1977 Plan and your forest planning analysis is easily amenable to their inclusion. Therefore, we urge that you build them into your analysis so that we can conclude this discussion over what is the "proper" board foot/cubic foot ratio.

Our proposal will be largely defeated, though, if you apply the same ratio to all ages recognized within a size class. Since you have given them all the same starting volume and diameter, we fear that you will give them all the same board/foot cubic foot ratio. That would be incorrect. Because trees in 200 year old stands are bigger than trees in 100 year old stands, they should be given both larger diameters and larger board/foot cubic foot ratios. Again this argues for a reformulation of your yields for the different ages represented in your mature timber.

4. Visual Quality

Oregon's tourism marketing campaign relies heavily upon the scenic splendor of Oregon's national forests. The natural beauty for which northwest Oregon is famous is due in large part to the lakes, rivers, and forests that form the Mt. Hood National Forest. Without a high quality view from high-use recreation sites and along the most traveled routes, the potential for tourism development is uncertain. Thus, protecting the unparalleled scenic quality of the Columbia Gorge, key travel corridors such as Highways 26 and 35, the Clackamas River, and the Barlow Wagon Road must be a major focus of the forest plan. In addition, the forest around important recreation sites such as Timberline Lodge, Mt. Hood Meadows, and Lost Lake deserves scenic protection. We will discuss your consideration of visual quality in two parts: 1) forest-wide; and 2) by viewshed.

a. Forest-Wide Considerations of Scenic Quality

You have inventoried your forest to assess relative scenic importance based on attractiveness, proximity to travelways and use areas, and the concern Forest users have for scenic quality. Through this process, all acres on the Forest are assigned to one of five Visual Quality Objectives (VQOs), each representing a relative degree of acceptable alteration of the natural landscape with "preservation" allowing the least alteration (ecological change only, except for trails) and "maximum modification" the most. In development of an alternative, each acre is given a VQO based on the Management Area to which it is assigned and the activities that will take place on it. The percentage distribution of your Forest among these visual categories as existing in 1979, as inventoried, and as assigned in your proposed plan (LRMP 4-203) is as follows:

VQO	EVC Inventory	VQO Inventory	Proposed Plan
Preservation	27	17	17
Retention	51	11	14
Partial Retention	6	25	13
Modification	8	38	11
Maximum Modification	7	9	45
Unacceptable Modification	1	—	—
	100	100	100

EVC - existing visual condition in 1979.
VQO - visual quality objective.

Note—we assumed that the 32 percent of the Forest that you place in the "seldom seen" category was allocated to maximum modification in the proposed plan. This assumption is based on two pieces of information in your planning documents: 1) your statement in the DEIS that these areas will be "heavily altered," and 2) the chart in your LRMP that shows sensitivity level 3 visual areas (to which we assume you would assign seldom seen areas) assigned to the maximum modification VQO.

You have reserved "preservation" for your Wilderness areas in your VQO inventory and proposed plan. Thus, 17 percent (187,000 acres)--your Wilderness areas--were given the VQO of preservation in your visual inventory and in your proposed plan. In addition, most of your roadless areas apparently also met the preservation definition in 1979.

In comparing the proposed plan to the existing visual condition (EVC), we see that a major decrease in visual quality will occur on your Forest over time under the proposed plan. Since the EVC was tallied, almost 9 years ago, it would help us to understand how much change in visual quality has already occurred.

In comparing the proposed plan to the VQO inventory, we see a shift away from the middle categories (partial retention and modification) toward categories on both ends (retention and modification) with five times as many acres allocated to "maximum modification" as were inventoried that way.

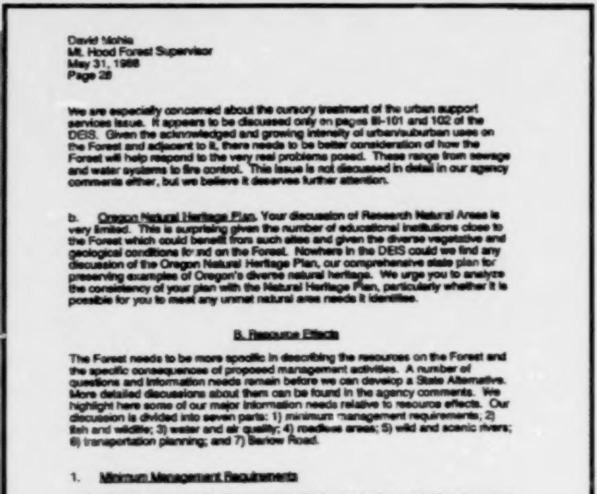
We presume that the allocation in your preferred plan does not match that of the VQO inventory because the cost of doing so would be too high, especially in terms of lost timber production. You have estimated these costs as follows:

VQO	Foreground	Middleground
	% of full yield	
Preservation	0	0
Retention	60-75	60-75
Partial Retention	60-75	90-100
Modification	90-100	100
Maximum Modification	100	100

These results raise three questions:

1) Does the 60-75 percent of full yield in foreground retention completely reflect the standards and guidelines for this management area? The yields seem high for even-aged management given the visual quality required. In all cases, you should check that the forest planning analysis correctly reflects the standards and guidelines of each VQO especially relative to the restrictions on type and rate of harvest.

2) If you can achieve the yields stated here (100 percent of full yield) in middleground modification, where most of the modification lies, why were so many acres allocated to maximum modification? Did you feel that the improvement in the view by shaping harvest units so they fit into the landscape and by keeping them relatively small was not worth the loss in stumpage revenue that might occur? Even in your key viewsheds discussed below? Similar questions arise with partial retention middle ground and modification foreground from which 90-100 percent of full timber yield can be obtained.



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We are especially concerned about the cursory treatment of the urban support services issue. It appears to be discussed only on pages III-101 and 102 of the DEIS. Given the acknowledged and growing intensity of urban/suburban uses on the Forest and adjacent to it, there needs to be better consideration of how the Forest will help respond to the very real problems posed. These range from sewage and water systems to fire control. This issue is not discussed in detail in our agency comments either, but we believe it deserves further attention.

b. Oregon Natural Heritage Plan. Your discussion of Research Natural Areas is very limited. This is surprising given the number of educational institutions close to the Forest which could benefit from such sites and given the diverse vegetative and geological conditions found on the Forest. Nowhere in the DEIS could we find any discussion of the Oregon Natural Heritage Plan, our comprehensive state plan for preserving examples of Oregon's diverse natural heritage. We urge you to analyze the consistency of your plan with the Natural Heritage Plan, particularly whether it is possible for you to meet any unmet natural area needs it identifies.

B. Resource Effects

The Forest needs to be more specific in describing the resources on the Forest and the specific consequences of proposed management activities. A number of questions and information needs remain before we can develop a State Alternative. More detailed discussions about them can be found in the agency comments. We highlight here some of our major information needs relative to resource effects. Our discussion is divided into seven parts: 1) minimum management requirements; 2) fish and wildlife; 3) water and air quality; 4) roadless areas; 5) wild and scenic rivers; 6) transportation planning; and 7) Barlow Road.

1. Minimum Management Requirements

All choices for managing the Forest must embody standards and practices to ensure basic protection of the environment such as maintenance of air quality, water quality, and the diversity of plants, animals, and ecosystems. In fact, we rely on your setting of these requirements to ensure that any forest planning alternative will not deprive future generations of their rightful share of the commodities and amenities that your Forest can provide.

You use "minimum management requirements" (MMRs) to disclose this baseline level of environmental protection, and, as you know, few aspects of national forest planning have generated more controversy. In part because of this controversy, the requirements are still somewhat unsettled since the FEIS for the Northern Spotted Owl has not yet been released.

We believe there is a need for further documentation and analysis. Not only is it unclear what data were used in formulating the MMRs, we are also concerned that only one set of MMR strategies is proposed in the Plan. Where alternative methods for achieving the same objectives are available, displaying them would be beneficial. We also note that adjacent national forests model their MMRs differently. Where this occurs, display of the analysis to support these differences is needed.

One of the major criticisms about the setting of these requirements is that they were done without public involvement. Your "Sensitivity Analysis for Minimum Management Requirements (Appendix G)" is a major step toward alleviating this criticism. We feel, however, that it should go further. Specifically, we believe that you should more systematically demonstrate that you have examined the possible ways of meeting each management requirement and have selected an efficient method of doing so, given the objectives and constraints of the preferred alternative.

2. Fish and Wildlife

We have broken our fish and wildlife discussion into a) big game habitat; b) management indicator species; c) old growth habitat; d) stream habitat; e) lake habitat; and f) road management.

a. Big Game Habitat

Hunting and viewing black-tailed deer and Roosevelt elk will be an important recreational activity on the Mt. Hood National Forest. Therefore, we are concerned that adequate habitat be provided for these species. The Oregon Department of Fish and Wildlife (ODFW) estimates that approximately 8,600 deer and 1,200 elk currently winter on the Forest, and has set management objectives for the Forest at 13,400 deer (156 percent of current levels) and 2,450 elk (200 percent of current levels).

Your preferred alternative projects the following population numbers for deer and elk:

Year	1990	2000	2030
Deer	9,200	27,300	13,600
Elk	4,300	4,000	2,000

We believe that you are projecting habitat for each species rather than the populations themselves. According to these projections, though, your deer population will rise sharply over time and then collapse. On the other hand, your elk population will steadily decline.

Regarding water quality, the main concern of the Department of Environmental Quality (DEQ) is that your plan be consistent with Oregon's adopted Statewide Water Quality Management Plan for forest practices as required by the Clean Water Act. You should discuss how the alternatives satisfy the requirements of the Oregon Forest Practices Act giving particular attention to the newly adopted rules for riparian area management. The DEQ is concerned that your past management practices apparently have not met Clean Air Act Standards. You must demonstrate your ability to meet these standards in the future.

4. Roadless Areas

Roadless areas containing approximately 130,000 acres in 10 parcels remain from the RARE II inventory. These areas, by and large, were considered for Wilderness but not selected by Congress in the 1984 Oregon Wilderness Act. The Forest Plan will determine whether they will be available for development during the next 10-15 years. While all can be left undeveloped under the Forest Plan, only one--the Olallie Further Planning Area--can be considered for Wilderness. Many border newly created Wilderness on the Mt. Hood. Others are undeveloped islands surrounded by lands on which a variety of activities take place.

These areas receive many types of recreational use in their roadless condition including hiking, camping, fishing, and hunting. In addition, they provide habitat for a variety of wildlife and are the source of clean, clear water. While some remaining roadless areas lie at higher elevations and are covered by grassy meadows or timber stands of low value and growth potential, many others, such as Bull of the Woods, have timber stands of economic consequence.

Your proposed plan would allocate almost all of Roaring River, Eagle, and Olallie, along with half of Larch Mountain and Wind Creek, to prescriptions that would maintain their unroaded status. Most of the land in the remaining roadless areas would be allocated to prescriptions that allow timber harvest including the majority of Badger, Mt Hood Additions, Twin Lakes, Bull of the Woods, and Salmon-Huckleberry and the other half of Larch Mountain and Wind Creek. Under your proposed plan, all roadless areas available for timber harvest would be entered during the plan period.

We believe that the 1984 Oregon Wilderness Act, by and large, determined which roadless areas should be left in a wild and untrammeled condition. They were designated as Wilderness. Remaining roadless areas should not be placed in roadless recreation management status simply because they border existing Wilderness. Rather, this allocation should be reserved for areas whose qualities stand on their own as a reason for prohibiting roadbuilding and timber harvest.

This summer we will visit each roadless area on the Forest during development of the State alternative. Then we will make a site-specific recommendation on each one. Given the high demand for semi-primitive recreation outside Wilderness areas on the Mt. Hood Forest as thoroughly discussed in the Mt. Hood Recreation Association comments, we will be particularly interested in information on existing recreation use of these areas.

Because we plan to make site-specific recommendations in our State alternative, we need to know the benefits and costs of different treatment of these areas. Your discussion on the disposition of each unroaded area in terms of the period in which it will be roaded is among the best we have seen. Also your discussion of the Management Area allocation and first decade harvest for each roadless area under each alternative proved helpful. Still, we lack needed information on the potential contribution of roadless areas, under different degrees of development, to the allowable sale quantity, habitat diversity, recreation opportunity, and water quality including spawning and rearing habitat for anadromous and resident fish. In addition, a summary of these results over all roadless areas would help considerably in our attempt to achieve an overview.

5. Wild and Scenic Rivers

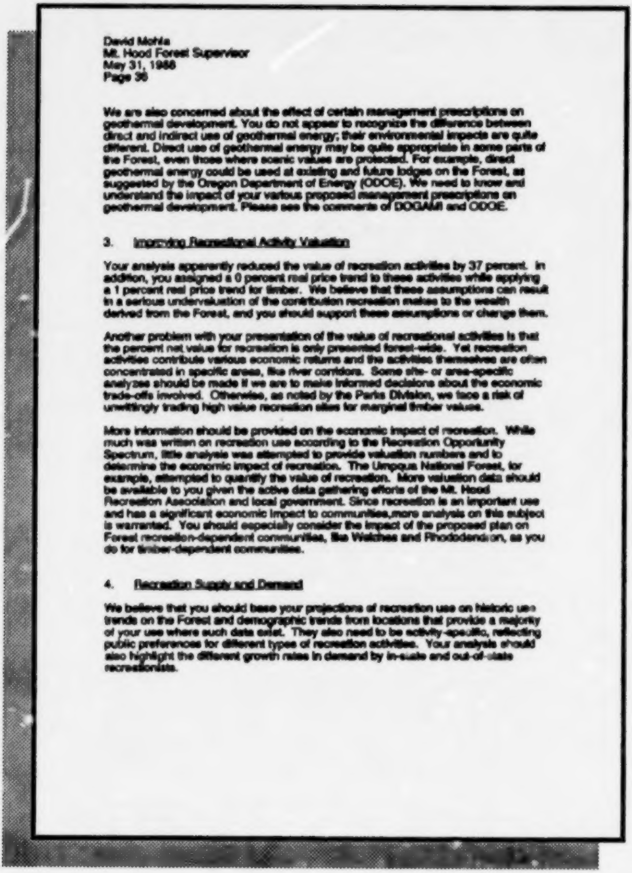
We agree with you that the Clackamas, Roaring and Salmon Rivers are eligible for designation under the federal Wild and Scenic Rivers Act. We also believe the White River is eligible for such designation. All four are included in Senator Hatfield's Omnibus Scenic Rivers bill. We will not make our final recommendations on whether these rivers should be designated under the federal law until consideration of Hatfield's bill is further along. We believe you should manage these rivers to maintain their eligibility until Congress acts.

The South and North Fork of the Clackamas River are proposed for designation as State Scenic Waterways under the Oregon Rivers Initiative. The North Fork of the Clackamas was found to have outstanding fishing values in a study by our Parks Division. The same study found Eagle Creek, Oak Grove Fork, the Collowash, Fish Creek, the Hood, the ZigZag and the Sandy to have outstanding recreation values. We believe you should study all of these rivers for eligibility for designation in the federal system. This will provide Congress with the information it needs for its deliberations.

As noted above, the state has not yet decided what to recommend on pending federal rivers legislation for Oregon, but until Congress acts, these rivers should be managed to protect their eligibility.

6. Transportation Planning

As recognized in your DEIS and LRMP, the Mt. Hood Forest is the most commercially developed of the thirteen forests in the State. Traffic problems along Highway 26 are already severe. Further private or public development on the Forest will have major impacts on our already heavily used state highways. The impacts of such developments on traffic need to be evaluated collectively, not individually. this should include analysis of improved access in the Upper Clackamas river corridor and the interrelationship between expansion at Mt. Bachelor on the Deschutes Forest and traffic on Mt. Hood. We urge you to do so, as suggested by the Highway Division.



We are also concerned about the effect of certain management prescriptions on geothermal development. You do not appear to recognize the difference between direct and indirect use of geothermal energy; their environmental impacts are quite different. Direct use of geothermal energy may be quite appropriate in some parts of the Forest, even those where scenic values are protected. For example, direct geothermal energy could be used at existing and future lodges on the Forest, as suggested by the Oregon Department of Energy (ODOE). We need to know and understand the impact of your various proposed management prescriptions on geothermal development. Please see the comments of DOGAMI and ODOE.

3. Improving Recreational Activity Valuation

Your analysis apparently reduced the value of recreation activities by 37 percent. In addition, you assigned a 0 percent real price trend to these activities while applying a 1 percent real price trend for timber. We believe that these assumptions can result in a serious undervaluation of the contribution recreation makes to the wealth derived from the Forest, and you should support these assumptions or change them.

Another problem with your presentation of the value of recreational activities is that the percent net value for recreation is only presented forest-wide. Yet recreation activities contribute various economic returns and the activities themselves are often concentrated in specific areas, like river corridors. Some site- or area-specific analyzes should be made if we are to make informed decisions about the economic trade-offs involved. Otherwise, as noted by the Parks Division, we face a risk of unwittingly trading high value recreation sites for marginal timber values.

More information should be provided on the economic impact of recreation. While much was written on recreation use according to the Recreation Opportunity Spectrum, little analysis was attempted to provide valuation numbers and to determine the economic impact of recreation. The Umpqua National Forest, for example, attempted to quantify the value of recreation. More valuation data should be available to you given the active data gathering efforts of the Mt. Hood Recreation Association and local government. Since recreation is an important use and has a significant economic impact to communities,more analysis on this subject is warranted. You should especially consider the impact of the proposed plan on Forest recreation-dependent communities, like Welches and Rhododendron, as you do for timber-dependent communities.

4. Recreation Supply and Demand

We believe that you should base your projections of recreation use on historic use trends on the Forest and demographic trends from locations that provide a majority of your use where such data exist. They also need to be activity-specific, reflecting public preferences for different types of recreation activities. Your analysis should also highlight the different growth rates in demand by in-state and out-of-state recreationists.

Recreation is very important to many communities. Yet, the Forest is showing a reduction of 185 recreation jobs. Across alternatives, employment does not vary despite the array of land allocations presented. Why is this? Are there no alternatives that heavily emphasize recreation to the extent that new jobs are created?

5. Estimating the Supply and Demand for Timber

Your projections of private timber availability are based on a decade-old study from Oregon State University. An update of that study will be available from OSU later this summer. Please consult it in preparing your FEIS.

6. The Economic Area of Influence

The Forest Service should expand its influence area to include the entire Portland Metropolitan Area by adding Washington and Yamhill Counties. Residents from these counties use the forest extensively for recreation. Further, the Portland labor market consists of four counties because of the commuting patterns that exist in the area.

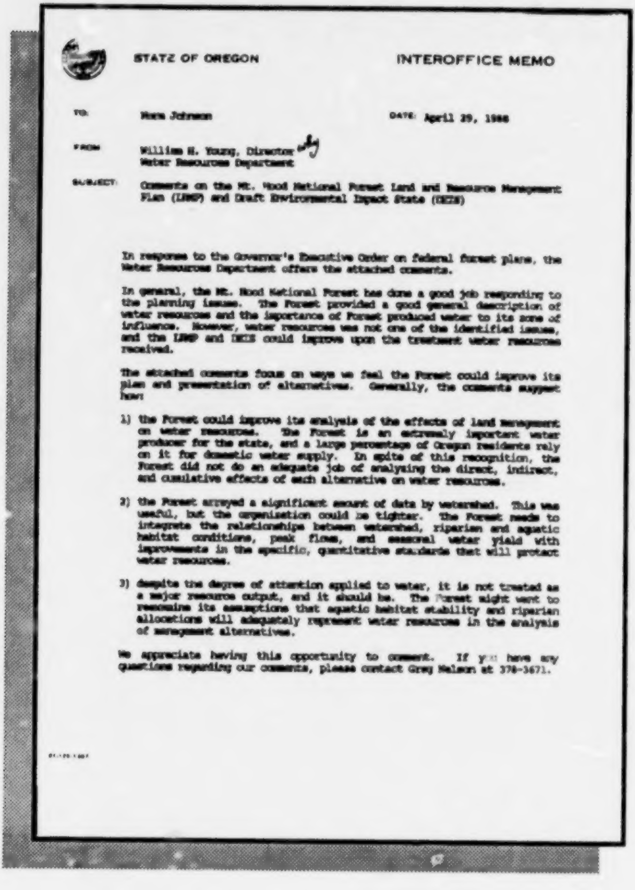
In general, there is a large inflow of commuters to jobs in the City of Portland from surrounding communities and counties. Thus one cannot judge the impact of alternative plans for the Mt. Hood National Forest solely on the basis of the number of people who live and/or work in Clackamas or Multnomah Counties, or even on the basis of those who live and/or work in such wood products dependent communities as Molalla and Estacada.

Washington and Yamhill Counties should be included because of the relative magnitude of the indirect and induced impacts which occur in these counties. Excluding these counties appears to lessen the importance of the Portland Metropolitan Area to the Mt. Hood National Forest.

D. Monitoring

We believe the purpose of a monitoring plan should be to establish methods and threshold levels for evaluating the direction, standards and outputs of the Forest Plan. The State recommends that the Mt. Hood consider adopting the monitoring format just recently developed by the Regional Office.

Because so much is unknown about the effects of management activities on different forest resources, we must rely on monitoring to provide early warning signals about activities having effects beyond acceptable limits. Therefore, we recommend that the budget for this monitoring be considered an integral part of the provision of outputs from the Forest. We request that you review the detailed comments from DEQ, ODFW, OSDF, the State Economist, and the Water Resources Department regarding monitoring.



STATZ OF OREGON

INTEROFFICE MEMO

TO: Mora Johnson

DATE: April 29, 1988

FROM: William H. Young, Director wy
Water Resources Department

SUBJECT: Comments on the Mt. Hood National Forest Land and Resource Management Plan (LRMP) and Draft Environmental Impact State (DEIS)

In response to the Governor's Executive Order on federal forest plans, the Water Resources Department offers the attached comments.

In general, the Mt. Hood National Forest has done a good job responding to the planning issues. The Forest provided a good general description of water resources and the importance of Forest produced water to its zone of influence. However, water resources was not one of the identified issues, and the LRMP and DEIS could improve upon the treatment water resources received.

The attached comments focus on ways we feel the Forest could improve its plan and presentation of alternatives. Generally, the comments suggest how:

1) the Forest could improve its analysis of the effects of land management on water resources. The Forest is an extremely important water producer for the state, and a large percentage of Oregon residents rely on it for domestic water supply. In spite of this recognition, the Forest did not do an adequate job of analyzing the direct, indirect, and cumulative effects of each alternative on water resources.

2) the Forest arrayed a significant amount of data by watershed. This was useful, but the organization could be tighter. The Forest needs to integrate the relationships between watershed, riparian and aquatic habitat conditions, peak flows, and seasonal water yield with improvements in the specific, quantitative standards that will protect water resources.

3) despite the degree of attention applied to water, it is not treated as a major resource output, and it should be. The Forest might want to reexamine its assumptions that aquatic habitat stability and riparian allocations will adequately represent water resources in the analysis of management alternatives.

We appreciate having this opportunity to comment. If you have any questions regarding our comments, please contact Greg Nelson at 378-3671.

List of Attachments:

1) Comments
2) Table 1: Minimum Perennial Streamflows
3) Attachment A:
    - Lower Willamette Basin Program
    - Hood River Basin Program
    - Lower Deschutes River Basin Program
4) Attachment B:
    - Waterfalls Near the Columbia River

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Clackamas River subbasin for the purpose of maintaining sufficient streamflow to support aquatic life. When streamflows drop below the levels listed in Table 1, no appropriations with later priority dates will be allowed except for domestic or livestock uses.

B. Sandy River Basin

The Sandy Basin contains the Bull Run Watershed, the principal source of municipal supply for the City of Portland and communities served by the Portland Water Bureau. Bull Run provides domestic water to over 600,000 people in the Portland metropolitan area as well as industrial and commercial users. The Portland Water Bureau relies on the Forest for continued management of the Bull Run Watershed as a source for unfiltered, high quality water.

The Sandy Basin Program is included in the Lower Willamette Basin Program. However, legislative action effectively controls the basin's water resources. The State of Oregon legislatively granted the City of Portland exclusive use of the Bull Run and Little Sandy Rivers (ORS 538.420). The Oregon Legislature has withdrawn the Sandy River and tributaries from appropriation, except to protect fish life. Exceptions to the legislative withdrawal are enclosed in the program.

In addition, the Oregon Legislature has withdrawn from appropriation, condemnation, diversion or interruption those streams, between the Sandy River and the Hood River, which form waterfalls near the Columbia River (ORS 538.200 and 538.210). Legislative intent is to maintain the aesthetics of the falls and prevent interruption of streamflow which could adversely affect those values. Most of the streams, listed in Attachment B, originate on or flow through the Forest.

C. Hood River Basin

Generally, the waters of the Hood River Basin are available for most beneficial uses, including irrigation, industrial, mining and pollution abatement. The Hood River Basin contains The Dalles Watershed Management Unit and the Dufur Backup Watershed. The Dog River above OWRD-USGS Gage 1134 is classified for municipal use only and comprises the upper drainage of the Forest's Dalles Watershed Management Unit. The streams making up the Dufur Backup Watershed are classified for all beneficial uses.

In addition, there are 7 established minimum perennial streamflows in the basin. No appropriation of water shall be granted from the streams listed in Table 1 when flows are below the specified levels.

D. Lower Deschutes River Basin

The Lower Deschutes River Basin Program concentrates on the recreation, fish and wildlife values of the mainstem Deschutes River. All beneficial water uses are recognized by the basin program. The exceptions are the natural lakes of the basin, and specifically Boulder

Lake. Natural lakes are classified primarily for nonconsumptive uses including irrigation of lawn and garden. Boulder Lake is not classified for irrigation of lawn and garden, but irrigation diversion from the lake is allowed up to a maximum of 100 acre-feet per year.

A minimum perennial streamflow for the White River has been established at the mouth (see Table 1).

E. Significance of Basin Programs

Some rivers, streams and lakes have been classified for specific uses or have minimum streamflows. Management of adjacent Forest lands should be consistent with protecting and maintaining those uses. The level of protection afforded these values by Forest management activities allows WRD to assess the effectiveness of the LRMP and DEIS.

The Forest Service should acknowledge the responsibilities and authorities of the Commission. The Forest Service recognizes the need to address state water rights, but might go further and discuss coordination with the State on planning issues dealing with reserved rights, instream flows or riparian and watershed enhancement projects. State water resources programs could be cited in the section on Plans of State and Other Resource Agencies on page B-6 of the APPENDICES.

II. Comments on DEIS and LRMP

RESOURCE SUMMARIES - AFFECTED ENVIRONMENT

The planning staff's presentation of the affected environment in the DEIS is consistent and easily understood. However, the organization could be better. Water resources warrant greater attention, especially cumulative impacts and environmental consequences of the proposed alternatives. Staff may want to review the Willamette and Umpqua National Forest's discussion of the affected environment, and treatment given direct, indirect, and cumulative effects of the alternatives on water resources. The Willamette and Umpqua presentations are well organized, easily understood, and present a good analysis of water resource conditions on the respective Forests. The Mt. Hood staff may want to revise its discussion of affected environment to reflect a similar format and level of analysis.

Soils

The discussion of soil resources aptly points out that soil compaction reduces infiltration rates and can lead to erosion and degradation of water quality from overland flow. In discussing management concerns, the DEIS on page III-6 notes current management directs that soil compaction on harvest sites must be no more than 20 percent of the harvest area. However, the discussion points out that over half the logging on the Forest continues to be by tractor and other ground equipment. It suggests the 20 percent compaction "goal" may be out of

3) Have you considered uneven-aged management for your visual areas as a way to decrease the conflicts between scenic quality and timber production? In your Douglas-fir/true fir and true fir types, such an approach might cause the amount of true fir to increase over time. Still that species change should not rule out uneven-aged management in your key viewsheds.

See EDD's comments for more details on these issues.

b. Viewshed Considerations of Scenic Quality

You have divided your forest into viewshed and nonviewshed areas, with your 86 viewshed areas covering major travel corridors and recreation sites. The distribution of the viewshed and nonviewshed areas as inventoried and as assigned in your proposed plan is as follows:

VQO	Viewshed Areas (561,000 acres)		Nonviewshed Areas (539,000 acres)	
	Inventoried	Proposed Plan	Inventoried	Proposed Plan
Preservation			17	17
Retention	11	14		
Partial Retention	25	13		
Modification	15	11	23	
Maximum Modification	0	13	9	32
	51	51	49	49

In the viewsheds, under the preferred alternative, retention generally occurs in the foreground (near the road or recreation site) and partial retention and modification in the middleground (up the hill or across the river from the critical view spot). The increase in maximum modification over what has been inventoried will mean that fairly visible clearcuts will be seen in the middle distance in many of the viewsheds that you classify as being of lower sensitivity.

In the nonviewshed areas your Forest will be one of stark contrasts: 1) the higher elevation lands, which are mostly Wilderness, will be managed under preservation, and 2) the lower elevation lands where timber harvest is permitted will be managed with only minimal attention to scenic beauty. While the effect on the lower elevation lands will be diluted somewhat by the intermixed unsuitable and unavailable land on which timber harvest is not permitted, it is clear that some "visual shock" will occur there because of how little inventoried modification will be implemented.

In addition to describing the visual inventory and allocation by VQO, you describe the existing visual condition and future visual condition of your viewsheds in terms of how much alteration has been done and will be permitted. Although you do not directly link this "visual condition" classification to the VQO classification, we believe that the connection is as follows:

Visual Condition	VQO
Natural appearing	Preservation-retention
Slightly altered	Partial retention
Moderately altered	Modification
Heavily altered	Maximum modification

You then rate the existing visual condition of each viewshed and the visual condition under each alternative on pages IV-3-68. These results puzzle us because the statement of existing visual condition here seems inconsistent with that reported above and found on the LRMP 2-25, with much less retention and much more maximum modification shown here in the existing visual condition. Which is right?

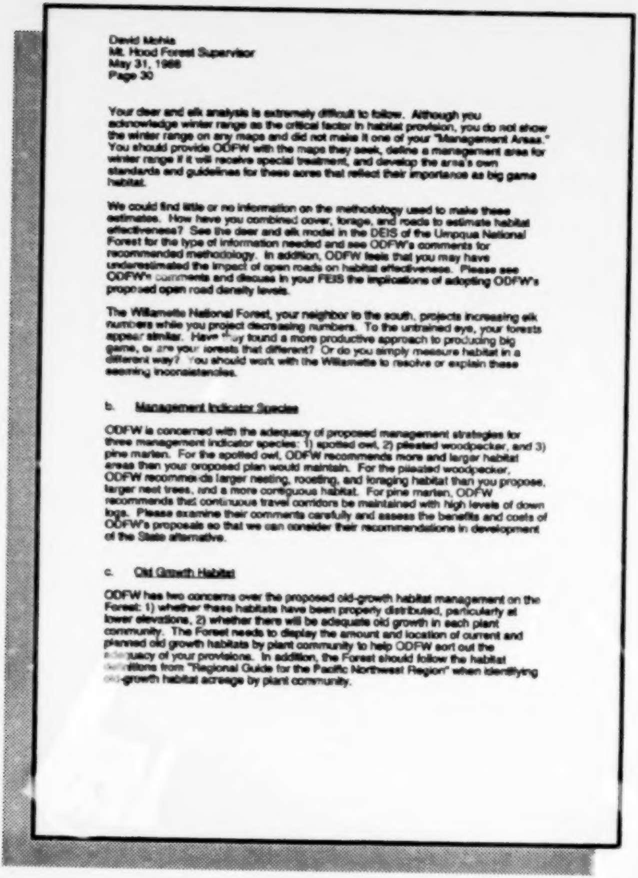
You classify 48 viewsheds covering 382,000 acres as sensitivity level 1 (highest sensitivity). Included in this list are the Columbia Gorge, Timberline, Mt. Hood Meadows, and Roaring River. Under your proposed plan, you claim that visual condition will improve on 20 of these viewsheds, stay the same on 20, and deteriorate on 8. These results seem inconsistent with the information given in other parts of your document on what will happen to visual quality on your Forest over time. Because the public often reacts most sharply to changes in visual condition on key scenic areas, it is important that you present an accurate, consistent statement of these changes throughout your planning documents.

It would help us considerably if the existing visual condition, VQO inventory and visual condition under each alternative were reported by viewshed in terms of acres in different VQO categories so we could better understand the change to expect in each viewshed. See the DEIS for the Willamette National Forest for a useful display of this information.

Please see the comments of EDO for further requests for clarifications and information.

5. Additional Considerations

a. Coordination with Local Land Use Plans. We appreciate the consideration given in the DEIS to the existing county plans applicable to private lands surrounding the Forest. As noted in the comments from the Department of Land Conservation and Development, however, we believe you need to do more to analyze the consistency of your proposed plan with the local government plans. You do so very briefly in Chapter 3 of the DEIS, but that appears to be it. Given the extent and significance of county efforts to identify special resource values on the Forest in its plans, it behooves you to discuss consistency at greater length--particularly in terms of your alternatives.



Your deer and elk analysis is extremely difficult to follow. Although you acknowledge winter range as the critical factor in habitat provision, you do not show the winter range on any maps and did not make it one of your "Management Areas." You should provide ODFW with the maps they seek, define a management area for winter range if it will receive special treatment, and develop the area's own standards and guidelines for these acres that reflect their importance as big game habitat.

We could find little or no information on the methodology used to make these estimates. How have you combined cover, forage, and roads to estimate habitat effectiveness? See the deer and elk model in the DEIS of the Umpqua National Forest for the type of information needed and see ODFW's comments for recommended methodology. In addition, ODFW feels that you may have underestimated the impact of open roads on habitat effectiveness. Please see ODFW's comments and discuss in your FEIS the implications of adopting ODFW's proposed open road density levels.

The Willamette National Forest, your neighbor to the south, projects increasing elk numbers while you project decreasing numbers. To the untrained eye, your forests appear similar. Have they found a more productive approach to producing big game, or are your forests that different? Or do you simply measure habitat in a different way? You should work with the Willamette to resolve or explain these seeming inconsistencies.

b. Management Indicator Species

ODFW is concerned with the adequacy of proposed management strategies for three management indicator species: 1) spotted owl, 2) pileated woodpecker, and 3) pine marten. For the spotted owl, ODFW recommends more and larger habitat areas than your proposed plan would maintain. For the pileated woodpecker, ODFW recommends larger nesting, roosting, and foraging habitat than you propose, larger nest trees, and a more contiguous habitat. For pine marten, ODFW recommends that continuous travel corridors be maintained with high levels of down logs. Please examine their comments carefully and assess the benefits and costs of ODFW's proposals so that we can consider their recommendations in development of the State alternative.

c. Old Growth Habitat

ODFW has two concerns over the proposed old-growth habitat management on the Forest: 1) whether these habitats have been properly distributed, particularly at lower elevations, 2) whether there will be adequate old growth in each plant community. The Forest needs to display the amount and location of current and planned old growth habitats by plant community to help ODFW sort out the adequacy of your provisions. In addition, the Forest should follow the habitat definitions from "Regional Guide for the Pacific Northwest Region" when identifying old-growth habitat acreage by plant community.

We believe you misstate the amount of existing "old growth" (stands over 200 years of age) that will be left after 50 years. The DEIS states that " Figure IV-0 shows that Alternatives NC, A, G, would all retain about 80% of the existing amount of old growth after 50 years." That is incorrect, as should be obvious from the Figure IV-0 since it shows Alternative H with 120% of existing old growth. Rather that figure considers all stands that will be 200+ years old in 50 years in making the comparison. According to your forest planning analysis, about 65 percent (rather than 80 percent) of your existing old growth will be around in 50 years under Alternative G assuming that none of it falls victim to catastrophes such as wildfire or windstorm. We believe that it would be helpful for you to show both types of information: 1) the amount of existing old growth that will not be harvested for five decades; and 2) the total amount of old growth (stands 200+ years of age) that you predict will be present in 50 years.

We question your portrayal of the old growth that will remain for another reason: we believe that you have considered the stands in the Bull Run drainage in this assessment as if they will not be cut even though you assume that you will produce about 21 million board feet per year from the lands there. Surely that rate will reduce the amount of old growth remaining.

d. Stream Habitat

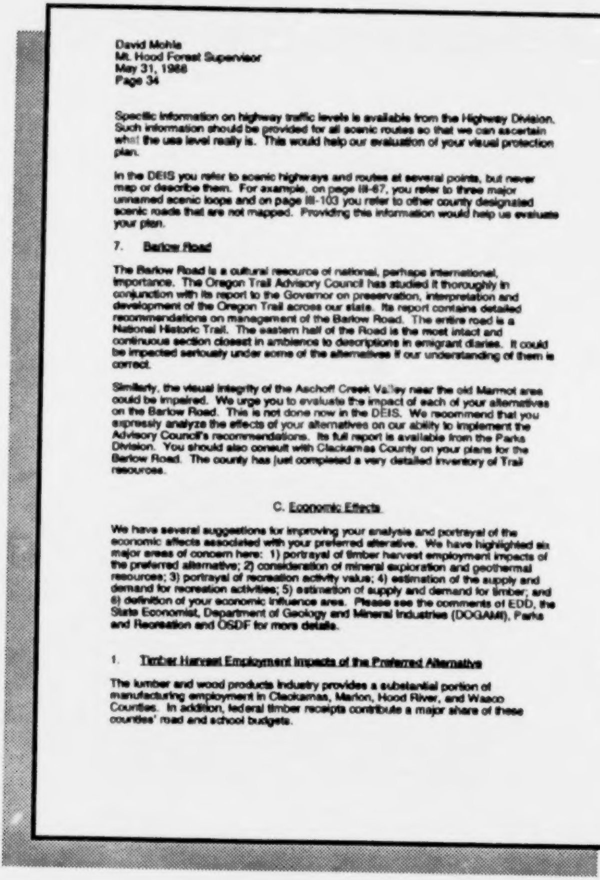
It is essential that you protect and carefully manage your aquatic and riparian resources. You have adequately acknowledged the importance of aquatic/riparian habitats, and have developed prescriptions that will maintain and improve these resources including Key Site Riparian (A9), Special Watershed Emphasis (B6), and General Riparian Areas (B7). ODFW has a grave concern that not enough of your important streams are assigned to those management areas. Please estimate the benefits and costs of reallocating your streams to the Management Areas described in ODFW's comments.

e. Road Management

Road management and selective closure have gained prominence in recent years as a crucial element in maintaining habitat for big game. You should work with ODFW to develop specific criteria for establishing road closures to meet wildlife objectives that are fair to forest users. These standards are especially important for roadless areas you propose to develop.

3. Water and Air Quality

Your analysis of air quality impacts, particularly those from prescribed burning, is very complete and well done. We appreciate your consideration and analysis of the air quality impacts of burning Forest fuelwood on the air quality within urban areas. Your consideration of alternative means of reducing wood residue without burning was also good.



David Mohla
Mt. Hood Forest Supervisor
May 31, 1988
Page 34

Specific information on highway traffic levels is available from the Highway Division. Such information should be provided for all scenic routes so that we can ascertain what the use level really is. This would help our evaluation of your visual protection plan.

In the DEIS you refer to scenic highways and routes at several points, but never map or describe them. For example, on page III-67, you refer to three major unnamed scenic loops and on page III-103 you refer to other county designated scenic roads that are not mapped. Providing this information would help us evaluate your plan.

7. Barlow Road

The Barlow Road is a cultural resource of national, perhaps international, importance. The Oregon Trail Advisory Council has studied it thoroughly in conjunction with its report to the Governor on preservation, interpretation and development of the Oregon Trail across our state. Its report contains detailed recommendations on management of the Barlow Road. The entire road is a National Historic Trail. The eastern half of the Road is the most intact and continuous section closest in ambience to descriptions in emigrant diaries. It could be impacted seriously under some of the alternatives if our understanding of them is correct.

Similarly, the visual integrity of the Aschoff Creek Valley near the old Marmot area could be impaired. We urge you to evaluate the impact of each of your alternatives on the Barlow Road. This is not done now in the DEIS. We recommend that you expressly analyze the effects of your alternatives on our ability to implement the Advisory Council's recommendations. Its full report is available from the Parks Division. You should also consult with Clackamas County on your plans for the Barlow Road. The county has just completed a very detailed inventory of Trail resources.

C. Economic Effects

We have several suggestions for improving your analysis and portrayal of the economic effects associated with your preferred alterative. We have highlighted six major areas of concern here: 1) portrayal of timber harvest employment impacts of the preferred alternative; 2) consideration of mineral exploration and geothermal resources; 3) portrayal of recreation activity value; 4) estimation of the supply and demand for recreation activities; 5) estimation of supply and demand for timber; and 6) definition of your economic influence area. Please see the comments of EDD, the State Economist, Department of Geology and Mineral Industries (DOGAMI), Parks and Recreation and OSDF for more details.

1. Timber Harvest Employment Impacts of the Preferred Alternative

The lumber and wood products industry provides a substantial portion of manufacturing employment in Clackamas, Marion, Hood River, and Wasco Counties. In addition, federal timber receipts contribute a major share of these counties' road and school budgets.

Your DEIS defines the activities of the years 1977-1986 as the historical base for understanding the economic effects of the plan alternatives. The 1977-86 averages for timber harvest and timber-based employment, however, do not represent what the surrounding counties have experienced over the last few years. In fact, the period includes the worst depression ever encountered by the wood products industry. These counties recently have experienced a much higher timber-based employment level than the 1977-86 average as companies cut their accumulated timber-under-contract with the return of high stumpage prices.

Your conclusion that the timber harvest under your proposed plan will rise in comparison to the 1977-86 average may cause people to believe that the timber supply will expand under the new Forest Plan which will in turn enhance economic growth. In reality, though, the projected increase in jobs, personal income and payments to counties has already been realized through the higher harvest levels of the last few years. In fact, the 1985-87 harvest level slightly exceeds the proposed maximum harvest level under the new Plan. Thus, we actually face a contraction in timber-based employment under the proposed Plan in relation to the situation that now exists.

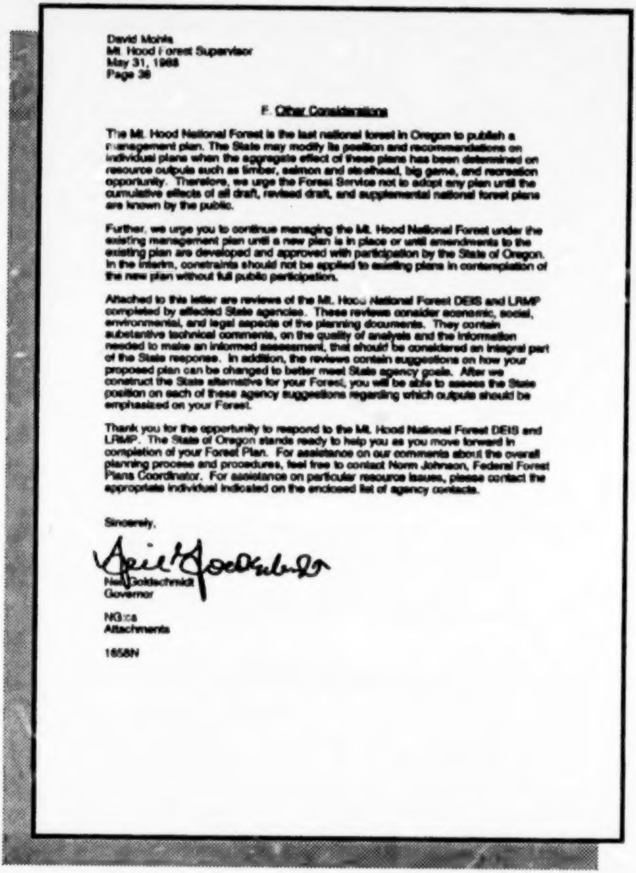
In summary, we believe it is imperative that the Forest compare the proposed allowable sale quantity and associated economic effects to those of the last few years, in addition to the longer period, and that you expand your base period to include 1987, giving you 11 years (1977-87) for comparison.

2. Mineral Exploration and Geothermal Resources

The analysis of mineral and energy resources in your DEIS is very limited. We were surprised to find no references in your bibliography to basic reference materials like DOGAMI Special Paper 14 on "Geology and Geothermal Resources of the Mount Hood Area, Oregon" and the comprehensive regional geothermal assessment prepared by the Washington State Energy Office and BPA. Your consideration of mineral resources and geothermal energy potential needs to be expanded in your FEIS.

As a first step, you should include a mineral resource inventory in the DEIS along with a map showing areas with favorable geology for locatable minerals, geothermal potential and oil and gas potential. You should quantify the value of the mineral resource to the extent feasible and factor that value into the various alternatives. As it is, there is no analysis of the impact of the various alternatives on mineral resource development opportunities. See the detailed comments of DOGAMI for suggestions on how this can be done.

In the DEIS you describe areas of the Forest that have deficient rock supplies to meet existing needs (page III-61). Apparently these are the areas described on page II-59, but that is not clear. This makes it difficult for us to evaluate potential impacts on quarries outside the Forest, even though your analysis suggests that rock shortages on the Forest could impact these quarries. This is a real concern of the Oregon Highway Division which needs such materials for road work. You should consider and evaluate the approach taken by the Willamette National Forest in developing alternatives. They propose to restrict rock availability to Forest Service and cooperative agencies only. Would this help you meet your rock needs?



David Morris
Mt. Hood Forest Supervisor
May 31, 1988
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F. Other Considerations

The Mt. Hood National Forest is the last national forest in Oregon to publish a management plan. The State may modify its position and recommendations on individual plans when the aggregate effect of these plans has been determined on resource outputs such as timber, salmon and steelhead, big game, and recreation opportunity. Therefore, we urge the Forest Service not to adopt any plan until the cumulative effects of all draft, revised draft, and supplemental national forest plans are known by the public.

Further, we urge you to continue managing the Mt. Hood National Forest under the existing management plan until a new plan is in place or until amendments to the existing plan are developed and approved with participation by the State of Oregon. In the interim, constraints should not be applied to existing plans in contemplation of the new plan without full public participation.

Attached to this letter are reviews of the Mt. Hood National Forest DEIS and LRMP completed by affected State agencies. These reviews consider economic, social, environmental, and legal aspects of the planning documents. They contain substantive technical comments, on the quality of analysis and the information needed to make an informed assessment, that should be considered an integral part of the State response. In addition, the reviews contain suggestions on how your proposed plan can be changed to better meet State agency goals. After we construct the State alternative for your Forest, you will be able to assess the State position on each of these agency suggestions regarding which outputs should be emphasized on your Forest.

Thank you for the opportunity to respond to the Mt. Hood National Forest DEIS and LRMP. The State of Oregon stands ready to help you as you move forward in completion of your Forest Plan. For assistance on our comments about the overall planning process and procedures, feel free to contact Norm Johnson, Federal Forest Plans Coordinator. For assistance on particular resource issues, please contact the appropriate individual indicated on the enclosed list of agency contacts.

Sincerely,

Neil Goldschmidt

Neil Goldschmidt
Governor

NG:ca
Attachments

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MT. HOOD NATIONAL FOREST

PROPOSED LAND AND RESOURCE MANAGEMENT PLAN

The Water Resources Department (WRD) has organized its comments into five sections:

I. Comparison of DEIS and LRMP with Agency Policies and Programs
II. Suggestions for Improving Alternatives
III. Assessment of Forest Service Alternatives
IV. Comments on Management Area Goals and Strategies
V. Summary of Data Concerns

I. Comparison of DEIS and LRMP with Agency Policies and Programs

The Oregon Water Resources Commission formulates water resources programs, plans and policies to utilize and control the water resources of the State. These programs are normally tied to river basins and designed to encourage, promote, and secure the beneficial use and control of water resources, as well as the development of additional water supplies. Water resources basin programs have been adopted for all basins drained by the Forest. These programs contain findings and directions for water management and should be consulted in the forest planning process.

The Mt. Hood National Forest is drained by four major drainage basins the State has defined for water management purposes: the Lower Willamette (including the Clackamas drainage), Sandy, Hood and Lower Deschutes River Basins.

A tiny area of the Forest is drained by the North Fork Molalla River, within the Middle Willamette Basin. Because the area drained by the Forest is so small, agency programs for this basin will not be discussed.

Stream systems form a continuum from the headwaters to the mouth. Watershed conditions in the headwaters have an effect on downstream channel structure, water quality and flow regimes. The Forest is the recharge zone for the continuum. It contains 16 municipal/domestic/commercial and 5 fish hatchery watersheds that users rely on for quality water. Great reliance is placed on the Forest to maintain flow regimes and water quality for instream and out-of-stream use throughout the continuum. Forest management that protects watersheds, riparian areas, and stream channels is fundamental to maintaining and enhancing the State's water resources.

The attached basin programs show that the water management emphasis varies slightly between westside and eastside basins. Programs for the basins draining the westside of the Cascades emphasize recreation, fish and wildlife, and municipal water needs. Eastside basin programs recognize the importance of irrigation in addition to the above-mentioned water uses.

In general, water resources basin programs establish water use policies for individual river basins. The Commission can restrict water use by classifying rivers, streams and lakes for specific uses, withdrawing them from further appropriation, declaring critical ground water areas, and establishing minimum perennial streamflows.

The following discussion briefly summarizes key basin program elements for the four basins draining the Forest. The complete programs are included in Attachment A.

A. Lower Willamette River Basin

The Clackamas subbasin is an important source of municipal water supply for the greater Portland metropolitan area. Cities and water districts have opted to develop Clackamas River water over other sources because of its relatively high quality. It provides drinking water to a population of between 85,000 and 100,000 people. The major municipal intakes are located well off the Forest on the Clackamas River below Carver.

The Clackamas River from River Mill Dam below Estacada, downstream roughly 12 miles to the bridge at Carver, is a designated State Scenic Waterway. The highest and best uses of the waters within the scenic waterway are recreation, fish and wildlife uses (ORS 390.835). It is the policy of the state to maintain the free-flowing character of the waterway in quantities necessary for recreation, fish and wildlife uses. Management of Forest watersheds affects the character and quantity of water downstream within the scenic waterway.

The Water Resources Program for the Lower Willamette highlights the importance of the Clackamas River subbasin for municipal and recreation uses and fish life (see Attachment A, Lower Willamette Basin Program). The upper reaches of the watershed, situated largely within the Mt. Hood National Forest, constitute one of the principal recreation areas in the Lower Willamette Basin. The upper reaches contain many natural lakes and streams which provide excellent recreation values. The Lower Willamette Basin Water Resources Program classifies naturally occuring lakes above 3,000 feet elevation for mostly nonconsumptive uses. Similarly,, the Clackamas River and tributaries above River Mill Dam, and Fish Creek are classified primarily for nonconsumptive and instream uses. The lower reaches of the Clackamas River system are well downstream of the Forest. However, maintaining instream and municipal beneficial water uses in the lower reaches is dependent to a large extent on upstream watershed conditions.

The Clackamas River system is considered to be the most important salmon and steelhead fishery in the Lower Willamette Basin. The Commission has established 20 minimum perennial streamflows within the reach if both logging and post-harvest piling are done by ground equipment, the most favored and economic means of logging and slash piling. Compaction from timber harvest has reduced site productivity on 30,000 acres and has serious implications for future timber production. The discussion appropriately points out alternative methods which could be used to reduce compaction.

The current standard of 20 percent or less compaction is apparently not being met. The fundamental question is whether the Forest can meet standards it has established for management of its resources. The 20 percent compaction standard in the LRMP will guide Forest management for the next 10 to 15 years. The preferred alternative will tractor harvest and machine pile timber on 43,500 acres of the Forest in the first two decades (DEIS, page IV-7). About 41 percent of the acres harvested (87,700) in the first decade will receive tractor harvesting or piling.

Neither the LRMP or DEIS clearly states how the Forest will reverse the trend in soil compaction. The Forest suggests individual harvest plans will identify logging methods needed to meet compaction requirements, and monitoring sites will help meet compaction goals. But, it is not clear how individual harvest plans will be analyzed to determine cumulative impacts from all timber sales, both Forestwide and those concentrated in one watershed. WRD suggests the Forest clarify how it will enforce the compaction standard and clearly identify how it will analyze cumulative impacts of individual timber sales. The alternatives should consider allocating acreage by decade that is to receive tractor treatments, or limit tractor logging and machine piling to certain soil types, slopes, and watersheds that have a high stability index. These elements need to be mapped, the characteristics identified, and included in the final DEIS and LRMP alternatives.

Water

The DEIS and LRMP analysis of the management situation states water is one of the Forest's most valuable and extensive renewable resources (DEIS page III-8 and LRMP page 3-10). Despite this recognition, water resources are not treated as one of the Forest's major resource outputs. Nor is water yield, either on an annual or seasonal basis, modeled by FORPLAN or analyzed through the use of standard hydrologic methodologies. Water is not directly addressed as a public issue. Water resources are indirectly and partially addressed through aquatic habitat and water quality, but not at the level necessary to analyze direct effects of Forest management practices on water supply. The WRD views this as a serious flaw in the planning process.

The condition of Forest watersheds is crucial to perpetuating benefits derived, both on and off-Forest, from this renewable resource. A watershed stability model was used by the planning staff to assess the probability of watershed damage from rain on snow flood events. Numerous watersheds appear to be at or above the threshold of probability for suffering damage from flood events. The increasing probability of suffering flood damage appears to be a function of timber harvest and road construction throughout the watershed.

Fish Creek in the Clackamas River system is viewed as representative of many mid to low elevation watersheds. Investigations conclude that 30 years of management have resulted in a downward trend in aquatic habitat condition, with substantial changes in channel stability, summer water temperature regimes and watershed condition. The watershed stability model shows the watershed shifting from a low risk rating in the late 1950's to one presently at or above the high risk threshold for flood damage.

If, as the DEIS suggests, the Fish Creek watershed is representative of mid to low elevation watersheds in the Forest, most mid to low elevation watersheds are experiencing a downward condition trend and are susceptible to damaging flood events. Unless the trend is reversed, declining watershed conditions pose a significant threat to Forest outputs such as water quantity, water quality, fish and aquatic habitat, and recreation.

Numerous watersheds appear to be at risk. These watersheds are not identified or mapped, nor is it clear if these are the same 19 watersheds used throughout the planning documents. This information needs to be clearly arrayed in tabular or other form, and if the watersheds are different they should be mapped.

In discussing the increasing probability of flood damage, the Forest has failed to address how this affects fish, municipal, and other beneficial water uses. Furthermore, if watersheds are susceptible to increased damage from rain on snow events, this suggests that watershed conditions have been altered to such an extent that they are experiencing increased peak flows over historic levels. What are the cumulative impacts of potential flood events and increases in peak flows? Will dispersion constraints aid in defusing this situation? Watershed stability information for all watersheds is lacking, so it is difficult to compare and analyze the combined effects of timber harvest, dispersion constraints, and road mileage on watershed stability. The effects of management on watershed stability, peak flows, and cumulative impacts need further analysis by the Forest. This analysis should be discussed at length in revised documents and provide answers to the preceding questions.

Riparian Areas

The Forest contains about 175,000 acres of riparian resources. Riparian ecosystems are the single most productive and diverse component of forest and range communities. Riparian systems serve to slow and store runoff, stabilize stream banks, catch sediment, provide a steady supply of high quality water to plants and animals, and recharge ground water. The DEIS suggests that of all the Forest's resources, few would rank higher in importance to people than its riparian-dependent resources (DEIS page III-20).

The primary focus of management is on running water (as opposed to standing water) riparian areas, and specifically in minimizing the impact of sediment on streams produced by landslides.

Forest riparian areas are experiencing a general downward trend in condition. Downward trend is most prominent in watersheds having long term or large scale disturbance resulting from road construction, timber harvest, and dispersed and developed recreation.

The Forest largely depends on riparian management standards and practices to meet water management goals. Generally, this is an incomplete response to water management. Most standards appear to be aimed primarily at minimizing water quality degradation by reducing sediment delivery to streams, and not at redistributing water supply.

The downward trend in riparian condition is linked to downward trending watersheds. Neither the watersheds nor riparian areas are identified. Beginning in 1980, management concepts recognized the importance of riparian areas. No inventory of riparian resources has been compiled in the intervening eight years. This is inconsistent with the Forest's recognition of the importance of riparian areas, and produces another void in the information base from which decisions guiding water management for the next 10 to 15 years will be made.

The Forest proposes a riparian rehabilitation and enhancement budget that is not based on an inventory. Furthermore, the Forest proposes developing management prescriptions on a site by site basis. While this is appropriate for applying site specific techniques, general management goals are broadly defined and largely allow continued, but undefined levels of timber harvest. The effects of proposed riparian management activities on beneficial water uses is not discussed in detail, nor are cumulative impacts addressed.

Transportation System

The Forest contains approximately 3,651 miles of road. This yields an average road density of 2.12 miles of road per square mile. Road densities exceed 3.0 miles per square mile in the Fish/Memaloose and White River drainages. Road densities exceed 2.5 miles per square mile in the West Fork Hood, Miles Creeks, Badger/Jordan, Lower Clackamas, Oak Grove Fork Clackamas, Upper Clackamas, Collawash, and Hot Springs Fork Collawash drainages. Does the calculation of these road densities include roadless and wilderness areas? If so, actual road densities may be even higher than indicated and have substantially greater effects on water quality, drainage patterns and peak flows.

The Forest expresses concern with road density relative to its ability to maintain water quality values. However, it is not clear how the Forest proposes to resolve this management concern, especially in the

Fish/Hemaloose and White River drainages. The Forest does not attempt to analyze the effects roading has had on watershed discharge patterns and peak flows. It should.

Will the existing road densities lead to road closures or road "obliteration" that will bring road densities in line with desired water quality needs? Will road densities be maintained at levels less than stream densities? Road density management and goals need to be defined. The LRMP should include a road management plan detailing the rate, mileage of road, type of "retirement", and date road closures will be undertaken.

III. MODIFICATIONS TO STANDARDS AND PLAN

Forest Management Direction

The general management direction for the Forest is clear and concise (LRMP, pages 4-1 to 4-3). The management direction cited by the Forest need be carried through into standards, guidelines and management prescriptions. This review examines the connection between management direction, management objectives, forest-wide standards, and management area standards and prescriptions, and suggests ways to enhance Forest water resources management.

The following Forest-wide goals directing future Forest management are critical to conserving water resources:

1) "Protect and maintain the character and quality of water; provide long-term sustained production of water; and provide a favorable flow from the Forest for both on-Forest and off-Forest water users."

   WRD fully supports the intent of this management directive. However, it is apparent from the discussion of watershed and aquatic habitat conditions that a downward condition trend is evident in some watersheds. The Forest should improve all streams and watersheds not in good condition. Maintaining current conditions may not be sufficient. WRD suggests as a Forest-wide goal the following:

   > Achieve hydrologic stability in all Forest watersheds during the life of this plan to protect and enhance the timing and rate of seasonal water yield; ensure long-term sustained production of water; and employ management practices which provide a favorable flow from the Forest for both on-Forest and off-Forest water users.

   The Forest planning document recognizes the need for additional data on its ground water resources. Recent studies suggest the Forest, as a ground water recharge zone, may be very important to

6. Water Quality (LRMP, pages 4-18 and 4-19)
Standard 6C states, "To the maximum practical extent, prevent accelerated sediment delivery to streams, and seeps and springs."

The terms "maximum practical extent" and "accelerated" need to be defined. Does accelerated mean above background levels, or above current levels which may already be unacceptable? If the definition of maximum practical extent is based on economic factors, it may be that sediment control is not cost effective when factored into certain management activities. If the definition is based on professional discretion, parameters delimiting decision making need to be identified and included in the standard. Parameters should limit the amount of sediment delivered to streams, and might be structured according to a percentage increase above background levels or on a tons per acreage basis (eg., 0.25 tons per acre).

Preventing accelerated sediment delivery to streams implies that management activities undertaken within RMAs will be conditioned to prevent nonpoint source pollution. Is this the case? If not, it should be explained why it is not required. This standard should include elements clarifying how this will be accomplished.

Water (LRMP, page 4-20)
The standards for water deal mostly with monitoring and protecting water quality and managing water systems. They fail to discuss water quantity in any but the most simplistic way. Peak flows and seasonal distribution of water is ignored.

1A. The character and quality of water areas should be maintained consistent with the RMA the water body is located within.

The standard is insufficient. The term "water area" needs to be defined. The standard implies that if the RMA is in poor condition, water quality and quantity will be maintained in a similarly poor condition. The standard should be amended to include at the minimum, water quantity and quality shall be maintained, and enhanced where necessary to meet other resource objectives such as fisheries, municipal supply and other on and off-Forest beneficial water uses. This should take into account minimum streamflows established on-Forest or adjacent to the Forest, and impose land management guidelines consistent with maintaining instream flow levels. Maintaining minimum streamflow levels is especially important in eastside river basins (Hood River and Lower Deschutes).

In addition, the standard should require that management activities (timber harvest and road building) minimize the risk to peak flows and earth flow movement at the drainage level based on the watershed stability index or a hydrologic recovery index (similar to that employed by the Willamette Forest). Drainages with low index ratings should not be scheduled for timber harvest or watershed altering activities until stabilized.

Transportation Systems (LRMP, page 4-31)

In general, the standards for road construction and operation appear vague. More specificity detailing required actions to control development of undesirable drainage patterns and to minimize erosion and sediment production are warranted.

III. Assessment of Forest Service Alternatives

WRD's assessment of alternatives addresses three representative alternatives broadly: Alternative C, the commodity alternative which maximizes present net value (PNV); Alternative E, the preferred alternative; and Alternative I, the fish and wildlife habitat alternative. In general, the alternative which proposes the least disruption to natural forest systems and the watershed continuum would probably yield the greatest water resources benefits to on-Forest and downstream use. Where extensive timber harvest and range activities are contemplated, Forest-wide and management area standards should prevent undesirable water supply impacts.

Alternative C

Alternative C has the highest PNV because the timber harvest is among the highest of the alternatives. It contains the largest acreage of timber emphasis management of any alternative (670,200 acres). The departure harvest associated with this alternative would be 37 percent above base levels in the first decade. In order to attain harvest targets, The Bull Run Watershed would be opened to recreation and intensive timber management.

By the third decade, alternative C would dramatically increase the risk of activating or accelerating earth flows. The intensive harvest schedule generally would preclude studying the effects of varying harvest intensities on earth flow movement.

About 60,000 acres of timber would be harvested by clearcuts before the end of the first decade. The miles of road construction and reconstruction associated with harvest would be high and sediment delivery would increase, especially as undeveloped, steep sloped lands and earth flows areas are opened to harvest. Sediment production would increase in the Bull Run Watershed and increase the likelihood a filtration system would have to be built by the City of Portland.

Riparian and aquatic habitat conditions would both suffer under alternative C. The even-aged timber management emphasis of this alternative would reduce vegetation diversity and ground cover because management is only to the minimum level required by BMPs.

prescriptions clearly describe management direction, but not necessarily the standards. The following comments pertain to specific management areas.

A1 - Bull Run Planning Unit

The goal of Bull Run management is the continued production of pure clear raw potable water to serve Portland and other local governmental units. Forest management activities within the planning unit would include controversial provisions for timber and fire and fuels management.

Fire and Fuels Management

The LRMP, page 4-68, states the basic goal of fire and fuels management is to convert the drainage to a "more fire resistant condition while maintaining the hydrologic conditions necessary for continuous production of high quality water." The primary fire management objectives are to reduce the chance for catastrophic wildfires occurring and protect the management unit from wildfires.

Fuels and fire management methods call for reducing fire hazards through a timber management program, including the conversion of old growth timber to younger tree stands. According to the Forest, "this will be done to maintain a continuous supply of high quality water over the long term."

The Forest fails to include what could be considered true standards. Rather, the Forest includes a generic discussion of management objectives and techniques that will be used to reduce the threat of fire. The crown-closure target of 80 percent is an example. WRD suggests that the Forest array standards.

Determining the extent and rate at which high level hazard zones should be converted to a lower level hazard appropriately rests with the organizations and committees currently analyzing management of the watershed. However, WRD would caution against relying strictly upon timber conversion to meet water quality and quantity goals.

Timber Management

The timber management program is designed to make the drainage more fire resistant and maintained in a hydrologically stable condition. Timber harvest will generally be limited to stable and low potential impact sites. Clearcutting will be used and limited in size to 25 acres or less. Adjacent stands are not designed to be cut until regenerated areas approach preharvest hydrological conditions (15-25 years). Harvest techniques will be regulated to minimize alteration of natural hydrologic cycle. The plan assumes a nonchargeable harvest of about 21 million board feet (MMBF) per year within the planning unit. Intensive, sustained yield timber management will be practiced in the buffer around the drainage.

A timber management program should strike a balance between what is the minimum necessary to maintain the hydrologic balance and continued production of high quality water, and timber harvest goals. On the surface, the harvest of 21 MMBF per year (non-chargeable) appears inconsistent with the rest of the LRMP. The Bull Run management area is included with management areas having essentially no allowable harvest. The projected annual harvest of 21 MMBF constitutes almost 10 percent of the annual green ASQ under the preferred alternative. It is unclear why this harvest is not considered part of the ASQ, or why Bull Run is not placed in the category B management areas allowing less than full intensity harvest.

Standards fail to specify what constitutes "stable" and "low potential impact" sites. These need to be defined based on soil type, harvest method, slope, elevation, etc. In addition, 25 acre clearcuts appear to be a bit large where the goal is to ensure high quality water. Research suggests that where there is ground disturbance there will be water quality degradation. The question to be answered is whether the cumulative impacts of 25 acre clearcuts, and other harvest activities, is great enough to significantly alter water quality. The Forest may want to consider including in the LRMP the water quality standards which limit harvest activities.

WRD would suggest that the Forest be conservative in its approach to timber harvest in the Bull Run Watershed, and if anything, err on the side of limiting timber harvest in favor of ensuring the continued production of high quality water.

A2 - Wilderness

Soil, Water, Air, and Riparian (LRMP, page 4-89)

D. Management must allow natural stream and riparian ecological processes to operate freely, provided significant resources outside of Wilderness are not endangered.

It is not entirely clear what this standard is meant to convey. If a catastrophic event occurs in wilderness areas requiring human intervention to correct, then staff needs to define the standards for action and the limits upon those actions.

A9 - Key Site Riparian Habitat (LRMP, pages 4-121 through 4-126)

The goal is to maintain or improve habitat and hydrological conditions and restrict management for nonriparian dependent resources to activities which have a high probability of benefiting riparian resources. Management activites shall give preferential consideration to riparian dependent resources.

The goals and management activity restrictions are noteworthy and offer resource protection to key site riparian areas that have not process, establishing the management guidelines that will be used in future EAs for site-specific areas. The budget and schedule for developing site-specific EAs should be included in the final or revised documents.

B. Riparian rehabilitation/enhancement project guidelines.

These appear to be practical project guidelines. However, without sufficient budget to adequately monitor project effectiveness and coordinate with other management goals, they are meaningless.

14. Transportation Systems/Facilities (LRMP, page 4-125)
   A. Whenever practicable, roads and other facilities shall be designed to avoid key site RMAs...include provisions for closure, or access control, unless otherwise addressed in environmental assessment.

This standard should be broadened to include roads in transitional uplands which could have a negative impact on key site RMAs.

   E. Drainage systems for roads...should incorporate practical features to minimize or eliminate discharge of drainage into key site water bodies.

The intent of this standard is good, but it should be strengthened by requiring (shall) features to minimize or eliminate discharge to waterbodies to prevent damage to riparian values.

   G. Closure and access control shall be used...to prevent damage to riparian values.

This standard is appropriate, but appears inconsistent without strengthening the preceding standards.

__B6 - Special Emphasis Watersheds__ (LRMP, pages 4-174 through 4-179)
The goal is to maintain or improve watershed conditions within the Still, Miles and Mill Creeks and Dog River watersheds having special management needs for water quality, municipal uses and fisheries.

Most multiple use activities are allowed in special emphasis watersheds, including chargeable timber harvest. Watersheds that serve municipal uses may have use restrictions on public access and recreation use.

It seems inappropriate that special emphasis watersheds yielding municipal water supply are open to timber operations and range use by livestock, but recreation use and public access is restricted. The Forest does not present a good case on which to base the assumption that livestock and timber harvest cause less threat to water quality and other watershed values than public and recreational access appears flawed.

Management area emphasis is directed primarily at forestwide management standards for many activities, and relies heavily on riparian standards to meet watershed goals. In some cases, such as geology and minerals management, this is appropriate. But standards do not specifically address water quantity and quality. It is assumed that forestwide standards act as the threshold level of management. The "generic" nature of the standards makes it difficult to clearly differentiate standards for the management of special emphasis watersheds from the Forest as a whole. The tone suggests there are subtle differences. WSD recommends that the plan be modified to clarify how management of special emphasis watersheds differs from nonspecial emphasis watershed areas.

B7 - General Riparian Areas (LRMP, pages 4-180 through 4-186)
The goal is to maintain or improve riparian habitat conditions for sustained, long-term production of fish, plant and wildlife species and high quality water. Multiple-use management activities, including chargeable timber harvest, take place in these areas. Actual "on-the-ground" mapping of general riparian areas is to be made during project planning. The actual boundaries will be located to meet specific forest-wide riparian management objectives.

Pages B-91 and B-92 of the Appendices describe the management prescriptions for riparian habitat MAs. General riparian areas are to be managed for timber at less than full intensity, generally by using longer harvest rotations. The interdisciplinary team identified basic riparian area "types". Extended timber rotations for a set of "minimum" conditions based on soils, hydrology, wildlife, fisheries and silviculture were developed for and applied to each type. This discussion would be better served by including a matrix or table which identifies each riparian type, includes the minimum conditions associated with each type, and specifies the extended rotations. The term "less than full intensity" would be clarified by inclusion of this information.

Full levels of timber harvest employing mitigation measures are allowed for riparian area types associated with intermittent streams and seeps. Appropriate harvest techniques are to be identified and required during the development of individual harvest plans. These may prove sufficient safeguards to resource values, but the premise of full intensity harvest ignores the interrelationship of these riparian types in the watershed continuum and treatment accorded the other riparian types. Although the LRMP and DEIS discusses mitigation, there is no adequate discussion examining the costs and benefits of no chargeable timber harvest in general riparian areas. If chargeable timber harvest is to be allowed in general MAs, the costs and benefits should be clearly arrayed.

Neither key site RMA nor general riparian management guidelines differentiate between east and west zone conditions. The two are distinctly different, and management standards and guidelines need to from this product, water appears to have considerable, quantifiable value, and proper management should be an important aspect of the plan.

The outputs for water do not vary between alternatives or by decade. The underlying assumption is that aquatic habitat stability and riparian allocations will adequately represent water resources in the analysis of management alternatives. The Forest assumes outputs will not change because of changing alternative emphasis and variable investments for mitigation and rehabilitation required to maintain output capability, especially for the timber harvest alternatives (DEIS, page II-50). Furthermore, when discussing the tradeoffs among alternatives, the Forest suggests that the increase in the value of non-cash benefits of water will be due to increases in recreation.

This fails to take into account any increase in non-cash benefits that might be derived from the 40 percent of Oregon residents who rely on Forest produced water for domestic supply, or regional reliance on these supplies for industrial, commercial and manufacturing water supply. Demand for water production is likely to remain steady or even increase as population continues to grow, and other sources of supply are exhausted, in the metropolitan Portland area. A growth in industrial and manufacturing capacity in the metropolitan area may require additional water supplies. Although no clear trend is apparent, it may be safe to assume that the demand for water originating in the Forest will remain steady. Timber, on the other hand, has experienced extreme demand fluctuations in recent years, and managing the Forest primarily for cash benefits derived from timber production seems somewhat short sighted.

The Forest assumes since "increased yields cannot be measured by a user on either a Forestwide or on a drainage basis, water yield will remain constant in all alternatives (APPENDICES, B-46)." Needless to say, in recent years the focus of water resources management has shifted from the objective of increasing water yield on an annual basis, to better distribution of streamflow throughout low flow periods. In all probability, unless extensive acreage were clearcut, annual water yield would remain roughly the same. The Fremont National Forest modelled water yields based on the extent of roads and clearcut openings and derived distinct annual yield values by decade for each management alternative. But, this approach fails to examine the effects of alternative management mechanisms on the monthly or seasonal distribution of water yield, and on other resource values such a streambank stability, riparian areas, and floodplains.

The presentation of watershed condition could have been displayed in tabular form. Table II-3a, Chapter II, which displays watershed condition could not be found as referenced.

The monitoring plan for most resource activities appears reasonable. Minor concerns center on the 5 year increment for monitoring watershed susceptibility to rain on snow flood events and determining riparian impacts from range practices. Five year increments may be inappropriate in drainages where the bulk of timber harvest, and subsequent roads and soil disturbance, are planned. Also, it appears as if there is no methodology or inventory in place from which to monitor riparian impacts.

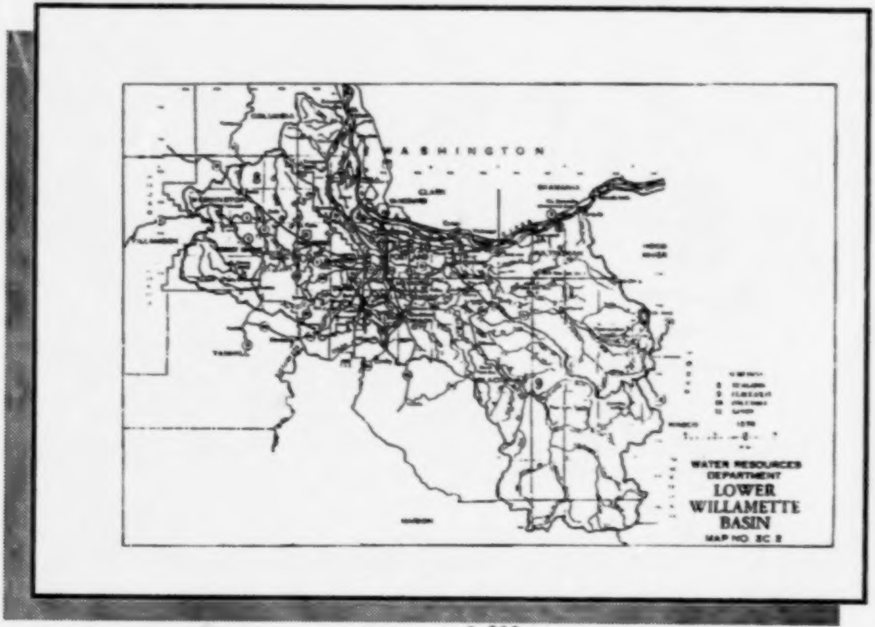
Volumes and timber access by drainage were depicted on page FPB-9 of the LRMP. It would be extremely useful if the modeled access levels were linked to watershed stability. Watershed stability is one of the few means of examining effects of timber practices, as modeled, on water resources. In addition, planned timber sales for the next four years were not displayed according to watershed. This appears inconsistent with the practice of displaying timber management activities by watershed.

Data Needs

It is evident that staff is well aware of the type and level of information, inventories and research needed to better manage the Forest's resources. The list of needs included on pages 2-34 through 2-38 of the LRMP is comprehensive. The Department concurs with them.

A suggested inclusion would be development of a model to determine effects of timber harvest and other management activities on the rate and timing of runoff. Research into management methods which retard runoff, "hold" precipitation, and release it more evenly throughout the water year would be extremely useful to on and off-Forest water users.

Admittedly, not all of the information needed to optimally manage the Forest can be acquired in a timely fashion. The public probably would find it useful if the Forest prioritized its data needs and included the highest priorities into the proposed budget.


WASHINGTON
CLARK
WATER RESOURCES DEPARTMENT
LOWER WILLAMETTE BASIN
MAP NO 2C 2

Minimum Perennial Streamflows
(Cubic Feet per Second)

HOOD RIVER BASIN

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
Hood River: at Powerdale Dam to be maintained to the mouth												
65 100*	65 100*	65 170*	65 170*	65 150*	65 150*	65 170*	65 170*	65 170*	65 130*	65 100*	65 100*	9-23-63 11-3-83
Middle Fork Hood River: at the mouth												
30	30	30	30	30	30	30	30	30	30	30	30	9-27-63
East Fork Hood River: at the mouth												
150	150	150	200	200	140	130	130	150	100	100	100	11-3-83
West Fork Hood River: at stream gage 14118000 (located in the E 1/2, Section 1, T2N, R9E WM) and maintained to the mouth												
100	100	100	100	100	100	100	100	100	100	100	100	9-23-63
Neal Creek: at the mouth												
20	20	15	15	15	15	20	20	20	18	13	9	11-3-83
Mill Creek: at the mouth												
6	15	19	15	15	15	15	15	15	12	15	4	11-3-83
Fifteenmile Creek: at stream gage 14104500 at Dufur (Section 3, T1S, R14E, WM) and maintained to the mouth												
6	6	6	6	6	13	30	30	30	13	13	4	11-3-83

* Earlier priority date for a portion of the indicated flow.

LOWER DESCHUTES RIVER BASIN

OCT	NOV	DEC	JAN	FEB 1-15	FEB 16-29	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
Measured at USGS gage 14103000 and maintained to the confluence of the White River and Deschutes River													
60 60	60 60	60 60	60 60	60 60	100 95	143 95	143 95	143 95	100 95	60 60	60 60	60 60	1-28-80 5-24-62

off-Forest water users. For example, a recent WRD ground water reservoir assessment in the Mosier area, between Hood River and The Dalles, suggests much of the ground water at lower elevations (off-Forest) is derived from surface streams recharging aquifers. This reinforces the importance of watershed conditions and streamflow on-Forest, to downstream, off-Forest uses.

The U.S. Geological Survey will soon be modeling the ground water resources of the Portland Structural Basin, an area to the west of the Sandy River and north of the Clackamas River. In conjunction with the Portland Basin study, WRD is concentrating on evaluating the ground water resources of the Troutdale formation, extending roughly from the Sandy River to the Clackamas River, and west towards the City of Damascus and east of the City of Sandy. In part, these investigations will examine recharge associated with the geologic boundary where older volcanic rock meets younger sediments. This appears to be one of the likely ground water recharge zones. At this stage it is unclear what effect watershed management practices have on ground water recharge beyond infiltration, percolation and streamflow. Field work and modeling may shed light on the effects of watershed management. The Forest should coordinate any ground water investigations it undertakes with the WRD and USGS.

2) "Protect the unique and valuable characteristics of floodplain and riparian zones; maintain or increase aquatic habitat complexity and diversity; and assure the long-term production of associated wildlife and plant species within the full spectrum of forest riparian areas."

Protection of floodplains and riparian areas relates directly to long-term sustained production of water quantity and quality from the Forest. The goal says nothing about enhancing or rehabilitating floodplains and riparian areas that are in less than desirable conditions. This should be included along with a phrase briefly describing how floodplains and riparian areas will be protected and enhanced. As an example, add "by limiting or excluding road construction, timber harvest, livestock grazing, structural developments, and recreational development.

Generally, the intent of the remainder of the Forest-wide goals is clear and WRD concurs with them. They could be further strengthened by including a phrase(s) briefly describing how this would be accomplished.

Forest-wide Standards

The organization of Forest-wide standards by functional activity makes it difficult, in some cases, to determine how standards interrelate to manage a resource.

Riparian Areas

2. Soils (LRMP, page 4-15)
Standard 2A limits exposed and compacted soils along class I - IV stream (running-water) RMAs to no more than 20% of the activity area. This is less management than in the other (still-water) RMAs. It is unacceptable that RMAs adjacent to perennial and intermittent (Class I-IV) streams are subject to greater soil disturbance than lake and wetland (still-water) RMAs which do not have as much potential to produce downstream cumulative impacts. The standard should offer, at the minimum, the same level of management as standards 2B and 2C.

3. Water Storage (LRMP, page 4-16)
Standard 3A fails to identify how the existing capability of floodplains to store water will be maintained. Furthermore, the intent is to maintain existing conditions. Maintaining existing conditions may be insufficient. Enhanced water storage capability may be needed to alleviate potential damage from peak runoff and major flood events which are likely, given the declining trend in watershed stability in mid to low elevation watersheds.

5. Terrestrial Habitat (LRMP, page 4-17 and 4-18)
Riparian area standards for timber harvest are not clearly defined. Instead of trying to define harvest standards through the "terrestrial habitat" category, the Forest should include a harvest category. Under this category, the Forest can include specific standards for riparian harvest that are absent in both the Forest-wide timber management and category B general riparian management area standards.

Standard 5B suggests 30 percent of RMAs will be subject to timber harvest. This appears high relative to standards for other National Forests. The Willamette National Forest, the adjoining Forest to the south, restricts harvest to 10 percent in order to maintain 90 percent of Class I, II and III riparian areas in a recovered condition at all times. The Forest should reexamine the standard and consider offering more protection to riparian values.

Among the alternatives the Forest might want to consider would be: no harvest in Class I - III RMAs, no harvest within the stream adjacent riparian zone (as opposed tp the transitional uplands) of Class I - III RMAs, or 200 year rotation harvests in Class IV RMAs.

Aquatic habitat conditions in the White River and Clackamas River systems would decline substantially from present conditions. The costs to mitigate the effects of management under this alternative would be double that for the preferred alternative. It is unlikely the effects of this alternative's management strategies could ever be totally mitigated.

The effects of alternative C would be most apparent on earth flows, sediment delivery and loading, aquatic habitat, and riparian conditions. The direct, indirect, and cumulative effects on water yield are not discussed. However, WRD feels this alternative would have the greatest impact on water resources. Not only would water quality deteriorate, but it is likely the downward trend in watershed stability would continue and get worse. Peak flows, and the resulting damage to stream channel stability and riparian areas, would increase and affect both on-Forest and off-Forest beneficial water uses. Opening the Bull Run Watershed to general timber harvest is politically and hydrologically unacceptable.

Alternative E
Alternative E contains a departure harvest (a 15 percent increase over base harvest) from long term sustained yield cut to answer the community stability public issue.

Sediment produced in this alternative is considerably less than for alternative C, but its lowest level of production in the fifth decade equals the highest level of production achieved by alternative I during the first decade. Tractor harvesting and machine piling would equal 43,900 acres in the first two decades. About 42,000 acres would be clearcut in the first decade.

Alternative E allocates 11,700 acres to key site riparian management areas in which there is no chargeable timber harvest. Despite an allocation increase of 178,000 acres of category B management lands over the allocations in alternative C, riparian conditions are likely to improve only modestly. Vegetation management on category C lands will seek maximum timber yield from available lands, and mitigating the harvest on category B and C lands will likely counter the cumulative effects of harvest activities in the short term and only offer improved conditions in the long term (50 years). Undesireable conditions will continue in the 15 Mile Creek and White River drainages.

In the short term (first two decades), the departure harvest will maintain the aquatic habitat index at the low to moderate level. Conditions in the Upper Clackamas, White River, and Badger/Jordan drainages will continue to decline.

In most all the alternatives except H and I, the Upper Clackamas, White River, and Badger/Jordan drainages appear to be designated for maximum timber production values. Except for the category A lands, much of the available harvest area in the Forest for both alternative C and E lies in the Clackamas and White River drainages. Alternative E contains more category B management area viewsheds, scenic river corridors, and earth flow areas subject to less than full harvest intensity in the Clackamas and White River systems than alternative C, but the two river systems form a large block of land that will account for a minimum of 25 percent of the Forest's future harvest (ASQ for the Upper Clackamas and White River drainages alone, not including Badger/Jordan, Oak Grove Clackamas, Collowash, or Hot Springs Collowash drainages, equals 661 MMBF out of a total of 2,550 MMBF).

The effects of alternative E would be most apparent on sediment delivery and loading, aquatic habitat, and riparian conditions. The direct, indirect, and cumulative effects on water yield are not discussed. Alternative E appears to be the middle-of-the-road timber management alternative for acres harvested, ASQ and timber sale program quantity. However, the protection afforded water resources is less than would be expected and is closer to the "commodity" alternatives than the "amenity" alternatives.

Water quality would improve in the long term, but it is likely the downward trend in watershed stability would continue and get worse in the Clackamas and White River systems. The aquatic habitat stability index tends to be more in line with the commodity alternatives. Peak flows, and the resulting damage to stream channel stability and riparian areas, would likely increase and affect both on-Forest and off-Forest beneficial water uses.

Alternative I

Alternative I allocates only 99,750 acres to timber emphasis, category C management areas. Alternative H, the old growth protection alternative, allocates less total land to timber harvest than contained in category A and B land allocations of alternative I. However, alternative I was designed to allow moderate to low levels of timber production while managing primarily for fish and wildlife values. Since effects of management on water quantity are not adequately discussed, aquatic conditions tend to become a surrogate test for effects of management on water resources.

The aquatic habitat index for alternative I is the highest of all alternatives. Under this alternative, areas which have been disturbed by management activities will respond rapidly to recovery. Nonetheless, aquatic habitat conditions in the Oak Grove Clackamas and Upper Clackamas drainages will be less than average.

Given the assumptions that aquatic habitat stability and riparian allocations represent water outputs, this alternative best ensures the continued, long-term production of water resources from the Forest.

IV. Comments on Management Area Goals and Strategies

It appears there is an opportunity to clarify and increase the specificity of management area standards. Goals and management

A timber management program should strike a balance between what is the minimum necessary to maintain the hydrologic balance and continued production of high quality water, and timber harvest goals. On the surface, the harvest of 21 MMBF per year (non-chargeable) appears inconsistent with the rest of the LRMP. The Bull Run management area is included with management areas having essentially no allowable harvest. The projected annual harvest of 21 MMBF constitutes almost 10 percent of the annual green ASQ under the preferred alternative. It is unclear why this harvest is not considered part of the ASQ, or why Bull Run is not placed in the category B management areas allowing less than full intensity harvest.

Standards fail to specify what constitutes "stable" and "low potential impact" sites. These need to be defined based on soil type, harvest method, slope, elevation, etc. In addition, 25 acre clearcuts appear to be a bit large where the goal is to ensure high quality water. Research suggests that where there is ground disturbance there will be water quality degradation. The question to be answered is whether the cumulative impacts of 25 acre clearcuts, and other harvest activities, is great enough to significantly alter water quality. The Forest may want to consider including in the LRMP the water quality standards which limit harvest activities.

WBD would suggest that the Forest be conservative in its approach to timber harvest in the Bull Run Watershed, and if anything, err on the side of limiting timber harvest in favor of ensuring the continued production of high quality water.

A2 - Wilderness

Soil, Water, Air, and Riparian (LRMP, page 4-89)

D. Management must allow natural stream and riparian ecological processes to operate freely, provided significant resources outside of Wilderness are not endangered.

It is not entirely clear what this standard is meant to convey. If a catastrophic event occurs in wilderness areas requiring human intervention to correct, then staff needs to define the standards for action and the limits upon those actions.

A9 - Key Site Riparian Habitat (LRMP, pages 4-121 through 4-126)

The goal is to maintain or improve habitat and hydrological conditions and restrict management for nonriparian dependent resources to activities which have a high probability of benefiting riparian resources. Management activites shall give preferential consideration to riparian dependent resources.

The goals and management activity restrictions are noteworthy and offer resource protection to key site riparian areas that have not been appreciably altered by competing management activities. However, key site riparian areas make up a small area of the Forest at 11,700 acres, and are designed to protect and maintain pockets of ecological diversity rather than provide uniform, comprehensive riparian and transitional uplands management. Comprehensive riparian and transitional uplands management could better be achieved by either increasing the acreage classified as key site riparian areas, or strengthening standards for general riparian areas.

Timber management in key site areas was assigned a 0% harvest in the FORPLAN analysis of harvest accessibility constraints. Although there is no chargeable harvest, management allows harvest necessary to accomplish management objectives for individual areas. Area specific management objectives have not been developed. Management parameters for desired species mix and canopy cover, and other elements would allay concerns over the use of undefined management options.

Salvage harvest requirements to benefit other resource values in category B and C areas are identified in the LRMP, pages 4-60 through 4-63. Salvage guidelines for category A areas are not discussed because it is estimated that less than 1 MMBF per year will be harvested. Standards are confined to old growth trees 200 years or older. The decision to base development of standards on estimated levels of timber salvage, limited to only one age class, leaves a void in management directives aimed at potentially significant resources. Salvage standards for category A areas, including timber stands less than 200 years of age, should be developed to provide comprehensive management. If there is a good reason for not doing so, it should be explained in the DEIS.

9. Range Management (LRMP, page 4-123)
   A. Adjust grazing system and/or intensity as necessary to attain riparian objectives within key site RMAs.

Although somewhat generic and lacking in specifics, the standard suggests that livestock do not necessarily have to be excluded from all key site RMAs. Parameters need to be developed that act as a trigger mechanism initiating adjustments to grazing systems if this standard remains in its present form. As an example, when brush canopy reaches 25 percent utilization, or forbs and grass forage reaches the level where vigor is diminished, livestock are removed from riparian grazing allotments. In addition, the standard does not appear consistent with the objective of maintaining key site RMAs in relatively "unaltered" conditions.

10. Soil, Water and Air (LRMP, page 4-124)
   A. Site-specific riparian management objectives must be developed for each key site RMA.

The Forest should not subject key site RMAs to case-by-case management. Standards need to be developed now, as a part of this recognize this. WRD suggests that the seral distinctions could be described in the above mentioned matrix.

10. Soil, Water and Air
  A. Forest-wide standards apply

Refer to comments on riparian Forest-wide standards.

D6 - Earth Flows (LRMP, pages 4-187 through 4-190)

The goal is to use management practices on large, slow moving earth flows which do not accelerate or reactivate movement. Management emphasis is placed on maintaining hydrologic and physical balance. Chargeable timber harvest is programmed on earth flows. An inventory shows 31,000 acres of active and stabilized earth flows in the Forest, of which 18,900 acres of active earth flow are suitable for timber harvest (DEIS, page III-3).

Is it prudent, with the degree of knowledge the Forest has on the dynamics of earth flows, to manage active earth flow areas for timber harvest and other multiple uses? In the data needs section, staff recognizes the need to study and evaluate the effects of varying management intensities on earth flows. Slope stability correlates to water content, and even though management prescriptions attempt to balance water content of earth flows with slope and soil characteristics, the potential for impacts on water resources is great. A miscalculation which leads to accelerated movement could lead to stream sediment loading, or perhaps temporary stream blockage and subsequent flooding.

10. Soil, Water and Air

The one standard which states that management activities must be designed so that earth flows will not be reactivated is too general. Standards need to be more detailed and include the desired water to soil ratio. All other standards should be linked to the water and soil standards to retain water loading balance in the earth flow area.

14. Transportation/Facilities
  A. Roads must be designed and located in such a way that earth flow areas are not reactivated or accelerated.

The standard could be more explicit and state for example, that roads and other land disturbances shall not cut through the toe of earth flows.

C-1 Timber Emphasis Areas (LRMP, pages 4-196 through 4-201)

Chargeable timber harvest is the dominant objective while other outputs are produced in conjunction with timber.

10. Soil, Water and Air
  A. Forest-wide standards apply.

Refer to comments on Forest-wide standards for soil and water resources.

V. Summary of Data Concerns

The LRMP, DEIS and Appendices provide a great quantity of information. Unfortunately, there is so much information scattered throughout the documents, it is often difficult to coherently assimilate all of it to get a clear picture of resource conditions and alternative management prescriptions. This is in part a function of the organization of material.

Water resources data need to be more fully developed. Analysis of watershed condition (not just rain on snow events)and stability, peak flows, and the direct, indirect and cumulative consequences of the alternatives needs to be arrayed. Staff has not glossed over resource conditions which have suffered as the result of past management practices.

The importance of water, existing conditions and management concerns were discussed at length. Drainages, municipal and hatchery watersheds, special emphasis watersheds, and earth flow areas were identified and mapped. Timber suitability and ASQ information (by species mix) and road miles were arrayed by watershed. In addition, aquatic habitat stability and timber harvest dispersion constraints were developed and arrayed by watershed. Activity schedules and budgets necessary to meet LRMP objectives, outputs and effects for non-timber resources were clearly presented, as was a monitoring plan.

Water quantity was not, and could not be, adequately modeled by FORPLAN for analysing the alternatives. FORPLAN was used to determine the optimal harvest program that was compatible with the management of other resources. Non-timber resources are analysed two ways. One, watershed specific analysis is made of the effects of timber harvest on resources. Second, non-timber resources are modeled as reduced levels of timber management emphasis on selected areas with high values. "The model optimizes upon an economic objective function. Economic benefits of non-market resources [such as watershed condition and water quantity] can not be placed upon an equal footing with timber values in the model formulation for the Mt. Hood (APPENDICES, B-14)."

The benfits derived from the production of water need to be translated into support for management actions. Forest produced water, used for domestic purposes, yields benefits as high as $24,000,000 per year (DEIS, page III-11). Irrigation water in Wasco County has been estimated to be worth almost $400,000 per year. And in Hood River County, 15,000 acres of orchards yield a harvest valued at $37,900,000 per year (DEIS, page III-41). Orchards and fruit production are dependent upon irrigation water. This is water that to a large extent originates in the Forest. Although the Forest receives no receipts

MINIMUM PERENNIAL STREAMFLOWS

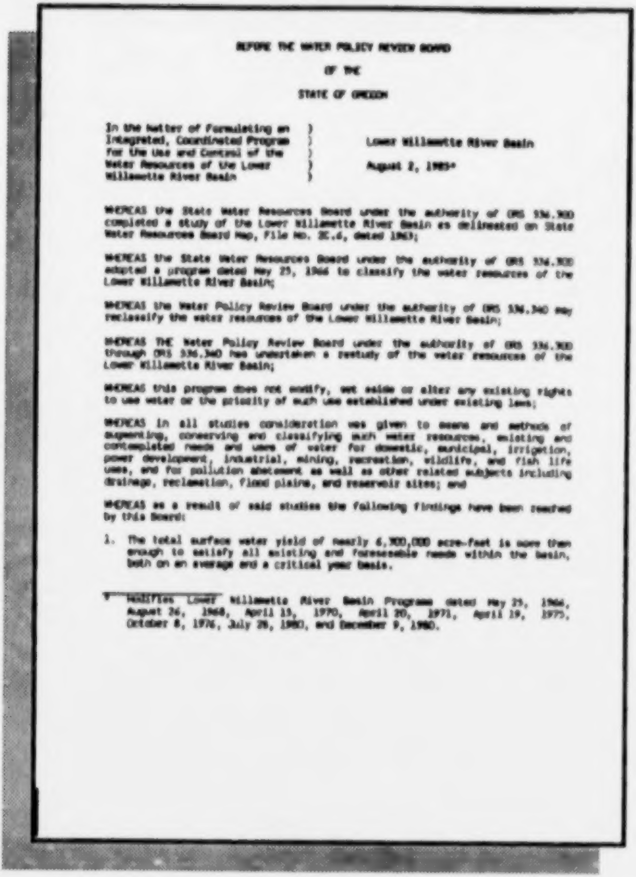
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL 1-15/16-31	AUG	SEP	Priority Date
North Fork Deep Creek above the mouth													
	1	15	30	20	30	35	35	30	3	3	1	1	5-23-66
Tickle Creek above the mouth													
	6	30	30	30	30	30	30	30	6	6	6	6	5-23-66
Clear Creek above the mouth													
	-	-	-	-	-	-	-	-	40	40	20	20	5-23-66
Clear Creek above Viola (NW 1/4, Sec 33, T3S, R3E)													
	-	-	-	-	-	-	-	-	25	25/15	15	15	5-23-66
Hot Springs Fork of the Collawash River above the mouth													
	75	75	75	75	75	75	75	75	75	75/15	15	15/75	5-23-66
Oak Grove Fork of the Clackamas River above the mouth													
	-	-	-	-	-	-	-	-	-	-	10	10	5-23-66
Clackamas River above gage 14209500, above Three Lynx (SE 1/4, Sec 21, T5S, R6E)													
	-	-	-	-	-	-	-	-	-	400	400	-	5-23-66
Clackamas River above gage 14209500, above Three Lynx and maintained to the mouth													
	640	640	640	640	640	640	640	640	640	400*	400*	400/640	8-26-68
Roaring River above the mouth													
	60/100	100	100	100	100	100	100	100	100	40	40	40	5-23-66
Fish Creek above the mouth													
	15	60	60	60	60	60	60	60	60	15	15	25	5-23-66
Fish Creek above the confluence of Wash Creek (SE 1/4, Sec 3, T6S, R6E)													
	-	-	-	-	-	-	-	-	-	-	3	3	5-23-66
Wash Creek above the mouth													
	5	25	25	25	25	25	25	25	25/10	10/3	3	3	5-23-66

*Earlier priority date for all or part of the indicated flow at the gage.

TABLE 1

MINIMUM PERENNIAL STREAMFLOWS
(cfs)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL 1-15/16-31	AUG	SEP 1-15/16-30	Priority Date
LOWER WILLAMETTE RIVER BASIN													
Clackamas Subbasin													
Lowe Creek above the mouth	2	8	8	8	8	8	8	8	8	3	3	7	5-23-66
Pinhead Creek above the mouth	30	75	75	75	75	75	75	75	50	30	30	30	5-23-66
Clackamas River above gage 14208000 at Big Bottom (SE 1/4, Sec 26, T6S, R7E)	240	240	240	240	240	240	240	240	240	130	130	130/240	5-23-66
Collawash River above the mouth	250	250	250	250	250	250	250	250	250	250/75	75	75/250	5-23-66
East Fork Collawash River above the mouth	-	-	-	-	-	-	-	-	-	-	10	10	5-23-66
Elk Lake Creek above the mouth	-	-	-	-	-	-	-	-	-	-	15	15	5-23-66
Eagle Creek above the mouth	40	125	125	125	125	125	125	125	100	100/40	40	40	5-23-66
North Fork Eagle Creek above the mouth	10	45	45	45	45	45	45	45	30	30	10	10	5-23-66
Fish Creek above the mouth	10	75	50	50	75	50	75	75	50	50/10	10	10	5-23-66



BEFORE THE WATER POLICY REVIEW BOARD

OF THE

STATE OF OREGON

In the Matter of Formulating an Integrated, Coordinated Program for the Use and Control of the Water Resources of the Lower Willamette River Basin	)))))	Lower Willamette River Basin August 2, 1983*

WHEREAS the State Water Resources Board under the authority of ORS 536.300 completed a study of the Lower Willamette River Basin as delineated on State Water Resources Board Map, File No. 2C.4, dated 1963;

WHEREAS the State Water Resources Board under the authority of ORS 536.300 adopted a program dated May 25, 1966 to classify the water resources of the Lower Willamette River Basin;

WHEREAS the Water Policy Review Board under the authority of ORS 536.340 may reclassify the water resources of the Lower Willamette River Basin;

WHEREAS THE Water Policy Review Board under the authority of ORS 536.300 through ORS 536.340 has undertaken a restudy of the water resources of the Lower Willamette River Basin;

WHEREAS this program does not modify, set aside or alter any existing rights to use water or the priority of such use established under existing laws;

WHEREAS in all studies consideration was given to means and methods of augmenting, conserving and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife, and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, flood plains, and reservoir sites; and

WHEREAS as a result of said studies the following findings have been reached by this Board:

1. The total surface water yield of nearly 6,300,000 acre-feet is more than enough to satisfy all existing and foreseeable needs within the basin, both on an average and a critical year basis.

---

* Modifies Lower Willamette River Basin Programs dated May 25, 1966, August 26, 1968, April 13, 1970, April 20, 1971, April 19, 1975, October 8, 1976, July 28, 1980, and December 9, 1980.

2. Only about seven percent of the annual yield occurs during the summer months of June through October. This, coupled with poor geographic distribution, results in seasonal water shortages in some areas.

3. Augmentation of water supply during low-flow periods can be obtained through storage of winter flows or the implementation of other measures.

4. There are unappropriated surface waters in the Lower Willamette Basin which come under the jurisdiction of the Water Policy Review Board, the exact amount of which is undetermined.

5. There is an urgent need to adjudicate the claims for the waters of the Lower Willamette Basin to permit identification of unappropriated water, to relate supply to both legal and actual use, and to permit proper planning for development to meet further needs. This is particularly urgent for the waters of Willamette Falls, where power claims totaling 30,133 cfs exist dating prior to 1909. Until these claims are adjudicated there will be a cloud on all subsequent appropriations upstream of Willamette Falls.

6. Domestic, livestock, mining, and wildlife uses represent comparatively small quantities of water in existing and contemplated future needs.

7. Almost 90 percent of the people within the basin rely on municipal water systems.

8. There appears to be no immediate problem concerning municipal water supply in that portion of the Tualatin Subbasin east of the Aloha-Huber area. However, there is an impending shortage west of this area. It is anticipated that the requirements for municipal water will increase approximately two and one-half times by 1985 to about 226,000 acre-feet annually. It is expected that about 97 percent of this will be supplied from surface sources and the balance from wells.

9. Municipal use by the city of Banks is more important than the support of aquatic life or minimization of pollution.

10. The Clackamas River has a high potential of good quality water with an average annual yield of over 2,000,000 acre-feet. It presently provides water to over 30,000 people.

11. The Sandy Subbasin, including the important Bull Run River watershed, will continue to be the principal municipal water supply source in the basin.

12. The Lower Willamette Basin is and is expected to remain a power deficient area in relation to generating capacity. The greatest value of its power generation is in its utilization to meet peak loads.

13. Opportunities exist for small power development projects in the Clackamas and Tualatin Subbasins.

14. Normal precipitation during summer months is not sufficient in the Lower Willamette Basin to attain maximum crop production. Irrigation will be required for certain crops to realize maximum benefit from the land

15. There are about 200,000 acres of potentially irrigable land in the basin. Approximately 35,000 acres are now irrigated using 90,000 acre-feet of water. If the present trend toward more irrigation continues, an additional 45,000 acres will be irrigated by 1985. This will require an additional diversion of about 110,000 acre-feet of water for a grand total in 1985 of about 200,000 acre-feet.

16. Present industrial water use is estimated to be 120,000 acre-feet annually of which over 100,000 acre-feet are supplied from surface water. It is expected that industrial water use will double by 1985. Much of the industrial water comes from municipal sources and needs are expected to continue to be served primarily by municipal systems.

17. The Columbia Subbasin has the highest potential of the basin for industrial development.

18. Although much of the water diverted for industrial use is returned, its quality is generally impaired, which is a matter of serious concern throughout the basin.

19. Water-based recreation is of major economic and social value to the basin and to the state. Recreation requirements for water of suitable quality will probably continue tu grow at an accelerated rate; however, this use is mainly nonconsumptive.

20. The upper reaches of the Clackamas River watershed, situated predominately in the Mt. Hood National Forest and abounding with numerous lakes, constitute one of the principal recreational areas in the basin. Almost all of these natural lakes are situated above an elevation of 3,000 feet mean sea level, and they, together with the upper reaches of the streams, provide outstanding recreational values and their waters should be classified primarily for recreational purposes.

21. The streams of the basin have an extensive fish life population which consists of some 47 species of fish belonging to 13 families. This is important for in-basin recreation and also makes a significant contribution to Columbia River and Pacific Ocean sport and commercial fishing.

22. The seasonal low flows in the Tualatin Subbasin seriously affect fish life. Higher flows would facilitate re-establishment of runs of summer steelhead trout and fall chinook salmon.

23. There are many problems in the basin associated with fish life. Low flows, high temperatures, obstructions, and pollution are matters of serious concern. Correction of these detriments would enhance one of the basin's important assets.

24. The West Fork Dairy Creek supports an important population of cutthroat trout as well as small runs of coho and steelhead.

25. Maintaining a minimum perennial streamflow on the West Fork Dairy Creek would benefit all instream uses including the support of fish life and the assimilation of treated waste.

26. The Clackamas River system is considered the most important salmon and steelhead producer in the Lower Willamette Basin.

27. The Clackamas River between the bridge at Carver and River Mill Dam is a designated State Scenic Waterway.

28. While there has been a general improvement in the physical, chemical, and bacteriological quality of the water in much of this basin during the past 15 years, pollution of the Willamette River remains a matter of concern at the local and state levels.

29. Water should not be used for pollution abatement in lieu of adequate treatment. However, for the foreseeable future some water will be required for assimilation of treated effluent.

30. The Department of Environmental Quality has specified 250 cfs as the streamflow necessary to maintain adequate water quality in the Tualatin River.

31. Water quality needs of the Tualatin River will be met from established minimum flows and stored water.

32. Minimum perennial streamflows have been established on the lower reach of the Tualatin River for protection of aquatic life and water quality maintenance.

33. Unappropriated natural streamflows and releases from Scoggins Reservoir will be inadequate to meet projected water quality requirements for dilution during June through October.

34. Normal natural streamflows are inadequate to meet actual demands and the maximum demand of existing water rights (legal demands) from July 31 through September 15.

35. Natural streamflows are inadequate to meet SWRB 1966 minimum flows and other legal demands on water during July through September.

36. Natural streamflows are inadequate to meet SWRB 1970 minimum flows and other legal demands on water during June through September.

37. Releases from storage behind Scoggins Dam have improved water quality in the Tualatin River. Additional storage possibilities are being investigated to meet projected future needs.

Clackamas River or Fish Creek and their tributaries above their confluence (Section 2, Township 5 South, Range 5 East).

8. For the purpose of maintaining a minimum perennial streamflow sufficient to support aquatic life and to minimize pollution and of attaining the highest and best use of waters released from storage, no appropriations of water except for domestic or livestock uses or waters to be legally stored or legally released from storage shall be made or granted by any state agency or public corporation of the state for the following waters and as shown in Table 1.

TUALATIN SUBBASIN

1. The Tualatin River or its tributaries above stream mile 70 (NE 1/4, Section 3, Township 1 South, Range 4 West) for flows of the Tualatin River below 30 cubic feet per second for the period beginning July 16 and ending November 15, 65 cubic feet per second for the period beginning November 16 and ending May 31, and 20 cubic feet per second for the period beginning June 1 and ending July 15, measured at or near stream mile 70.

2. Seine Creek or its tributaries above the mouth (SE 1/4, Section 18, Township 1 South, Range 4 West) for flows of Seine Creek below 2 cubic feet per second for the period beginning July 1 and ending November 15, 25 cubic feet per second for the period beginning November 16 and ending May 31, and 8 cubic feet per second for the month of June measured at or near the mouth.

3. Tanner Creek or its tributaries above the mouth (NE 1/4, Section 18, Township 1 South, Range 4 West) for flows of Tanner Creek below 1 cubic fort per second for the period beginning August 1 and ending September 30, and 9 cubic feet per second for the period beginning November 15 and ending May 31 measured at or near the mouth.

4. Gales Creek or its tributaries above the mouth (NE 1/4, Section 18, Township 1 South, Range 3 West) for flows of Gales Creek below 12 cubic feet per second for the period beginning July 16 and ending October 31, 100 cubic feet per second for the period beginning November 1 and ending May 31, and 35 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

5. Gales Creek or its tributaries above river mile 12 (Section 8, Township 1 North, Range 4 West) for flows of Gales Creek below 8 cubic feet per second for the period beginning September 1 and ending October 15, and 70 cubic feet per second for the period beginning November 15 and ending May 31 measured at or near river mile 12.

6. Beaver Creek or its tributaries above the mouth (NW 1/4, Section 23, Township 2 North, Range 5 West) for flows of Beaver Creek below 1 cubic foot per second for the period beginning July 16 and ending November 15, 17 cubic feet per second for the period beginning November 16 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

7. Little Beaver Creek or its tributaries above the mouth (NW 1/4, Section 5, Township 1 North, Range 4 West) for flows of Little Beaver Creek below 1 cubic foot per second for the period beginning August 1 and ending September 30 measured at or near the mouth.

8. North Fork of Gales Creek or its tributaries above the mouth (NW 1/4, Section 20, Township 2 North, Range 5 West) for flows of North Fork Gales Creek below 1.5 cubic feet per second for the period beginning July 16 and ending November 15, 25 cubic feet per second for the period beginning November 16 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

9. South Fork of Gales Creek or its tributaries above the mouth (SW 1/4, Section 21, Township 2 North, Range 5 West) for flows of South Fork Gales Creek below 1 cubic foot per second for the period beginning July 16 and ending November 15, 20 cubic feet per second for the period beginning November 16 and ending May 31, and 2 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

10. East Fork Dairy Creek or its tributaries above river mile 13 (SW 1/4, Section 4, Township 2 North, Range 3 West) for flows of East Fork Dairy Creek below 12 cubic feet per second for the period beginning July 16 and ending November 15, 30 cubic feet per second for the period beginning November 16 and ending May 31, and 25 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near river mile 13.

11. Denny Creek or its tributaries above the mouth (NW 1/4, Section 28, Township 3 North, Range 3 West) for flows of Denny Creek below 2 cubic feet per second for the period beginning August 1 and ending November 15, 15 cubic feet per second for the period beginning November 16 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending July 31 measured at or near the mouth.

12. Plentywater Creek or its tributaries above the mouth (SW 1/4, Section 28, Township 3 North, Range 3 West) for flows of Plentywater Creek below 1 cubic foot per second for the period beginning August 1 and ending November 15, 5 cubic feet per second for the period beginning November 16 and ending May 31, and 2 cubic feet per second for the period beginning June 1 and ending July 31 measured at or near the mouth.

8. Oak Grove Fork of the Clackamas River or its tributaries above the mouth (SE 1/4, Section 3, Township 6 South, Range 6 East) for flows of Oak Grove Fork below 10 cubic feet per second for the period beginning August 1 and ending September 30 measured at or near the mouth.

9. The Clackamas River or its tributaries above USGS-Federal Power Commission Gage No. 14-2095 (NE 1/4, Section 21, Township 5 South, Range 6 East) above Three Lynx, Oregon, for natural flows of the Clackamas River below 400 cubic feet per second for the period beginning July 1 and ending September 15 and 640 cubic feet per second for the period beginning September 16 and ending June 30 measured at the aforementioned gage and maintained to the mouth.

10. The Roaring River or its tributaries above the mouth (SE 1/4, Section 6, Township 5 South, Range 6 East) for flows of Roaring River below 40 cubic feet per second for the period beginning July 1 and ending October 15 and 100 cubic feet per second for the period beginning October 16 and ending June 30 measured at or near the mouth.

11. Fish Creek or its tributaries above the mouth (NE 1/4, Section 11, Township 5 South, Range 5 East) for flows of Fish Creek below 15 cubic feet per second for the period beginning July 1 and ending October 31, and 60 cubic feet per second for the period beginning November 1 and ending June 30 measured at or near the mouth.

12. Fish Creek or its tributaries above the confluence of Wash Creek (SE 1/4, Section 3, Township 6 South, Range 5 East) for flows of Fish Creek below 3 cubic feet per second for the period beginning August 1 and ending September 30 measured at or near the confluence of Fish and Wash Creeks.

13. Wash Creek or its tributaries above the mouth (SE 1/4, Section 3, Township 6 South, Range 5 East) for flows of Wash Creek below 3 cubic feet per second for the period beginning July 16 and ending October 31, 25 cubic feet per second for the period beginning November 1 and ending June 15, and 10 cubic feet per second for the period beginning June 16 and ending July 15 measured at or near the mouth.

14. Eagle Creek or its tributaries above the mouth (SE 1/4, Section 36, Township 2 South, Range 3 East) for flows of Eagle Creek below 40 cubic feet per second for the period beginning July 16 and ending October 31, 125 cubic feet per second for the period beginning November 1 and ending May 31, and 100 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

15. North Fork Eagle Creek or its tributaries above the mouth (NW 1/4, Section 11, Township 3 South, Range 4 East) for flows of North Fork Eagle Creek below 10 cubic feet per second for the period beginning August 1 and ending October 31, 45 cubic feet per second for the period beginning November 1 and ending May 31, 30 cubic feet per second for the period beginning June 1 and ending June 30, and 20 cubic feet per second for the period beginning July 1 and ending July 31 measured at or near the mouth.

16. Deep Creek or its tributaries above the mouth (SW 1/4, Section 15, Township 2 South, Range 3 East) for flows of Deep Creek below 10 cubic feet per second for the period beginning July 16 and ending October 31, 35 cubic feet per second for the period beginning November 1 and ending May 31, and 20 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

17. North Fork Deep Creek or its tributaries above the mouth (SW 1/4, Section 14, Township 2 South, Range 3 East) for flows of North Fork Deep Creek below 1 cubic foot per second for the period beginning August 1 and ending October 31, 20 cubic feet per second for the period beginning November 1 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending July 31 measured at or near the mouth.

18. Tickle Creek or its tributaries above the mouth (SE 1/4, Section 13, Township 2 South, Range 3 East) for flows of Tickle Creek below 4 cubic feet per second for the period beginning July 1 and ending October 31, 30 cubic feet per second for the period beginning November 1 and ending May 31, and 6 cubic feet per second for the period beginning June 1 and ending June 30 measured at or near the mouth.

19. Clear Creek or its tributaries above the mouth (SW 1/4, Section 18, Township 2 South, Range 3 East) for flows of Clear Creek below 20 cubic feet per second for the period beginning August 1 and ending September 30, and 40 cubic feet per second for the period beginning June 1 and ending July 31 measured at or near the mouth.

20. Clear Creek or its tributaries above Viola, Oregon (NW 1/4, Section 23, Township 3 South, Range 3 East) for flows of Clear Creek below 15 cubic feet per second for the period beginning July 16 and ending September 30 and 25 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near Viola.

COLUMBIA SUBBASIN

1. Milton Creek or its tributaries above the confluence of Salmon Creek (SE 1/4, Section 35, Township 5 North, Range 2 West) for flows of Milton Creek below 25 cubic feet per second for the period beginning November 1 and ending April 30 measured at or near the confluence of Milton and Salmon Creeks.

F. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses.

G. Rights to use of water for power purposes granted by any state agency shall be issued only on condition that the project operation shall be compatible with other beneficial uses.

H. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

I. Applications for the use of water for any purposes contrary to classifications specified in the basin program shall not be accepted or granted except as provided by law. The Director shall notify the Board and other interested individuals or agencies of the intent to accept an application for use in conflict with the adopted program in accordance with ORS 536.380 if the proposed use will not have a significant impact on any other water use as provided in Section A through C of this program.

Dated August 2, 1985

WATER POLICY REVIEW BOARD

William H. Young
William H. Young, Director
WATER RESOURCES DEPARTMENT

9204C

BEFORE THE WATER POLICY REVIEW BOARD

OF THE

STATE OF OREGON

In the matter of formulating an	)	
integrated, coordinated program	)	Hood Basin
for the use and control of the	)	
water resources of the Hood	)	February 26, 1985*
Basin	)	

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Hood Basin as delineated on State Water Resources Board Map, File 4.6;

WHEREAS results of this study have been published in the State Water Resources Board Report, Hood Basin;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving, and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife, and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS the Water Policy Review Board under the authority of ORS 536.340 may reclassify the water resources of the Hood Basin;

WHEREAS as a result of said study the following findings and conclusions were reached by this board pertaining to the Hood Area of the Hood Basin;

1. There is enough surface water on a critical year basis to meet existing and contemplated needs for all beneficial uses.

2. An undetermined quantity of lower quality ground water is available.

3. Land resources are sufficient to increase the irrigated acreage by 6,200 acres.

4. Diversion of the surplus Hood River Valley water to adjacent areas of need appears to be impractical due to high lifts involved.

5. Augmentation of water supply during low flow periods can come through storage of surplus runoff, development of ground water supplies, and more efficient use of presently appropriated waters.

6. Depletions on some streams are such that the simultaneous use of major portions of existing rights could result in zero flows during critical low flow periods.

* Modifies Hood Basin Program dated March 30, 1966, January 10, 1980 and April 4, 1981.

11. The efficiency of water use could be improved by extensive rehabilitation of irrigation facilities.

12. Use of water for hydroelectric power is nonexistent at present and the physical and economic potential is limited.

13. Recreational use of inland waters including the Columbia River reservoir pools is of considerable importance to the area and is associated primarily with sport fishing, boating, swimming, and waterfowl hunting.

14. Use of the basin's headwater streams by resident fish life is of importance to the basin.

15. Mill and Fifteenmile Creeks support runs of anadromous fish and a population of resident trout.

16. Maintenance of minimum perennial streamflows would be beneficial to the basin and the state.

17. Attainment of flow levels recommended by the Oregon Department of Fish and Wildlife will require the development of storage or other measures.

18. Restrictions on further appropriations of natural streamflow would not materially aid in maintaining minimum flows because of existing over-appropriation during the low-flow season, but limitations on use could help protect flows during other parts of the year.

19. Pollution of surface and ground water is localized and intermittent in occurrence.

20. Streamflow levels sufficient to assimilate treated waste at Dufur would be important for maintaining water quality in Fifteenmile Creek.

21. Serious damage, caused by flooding and erosion, is an annual occurrence along all major streams in cropped areas.

22. No serious drainage problems presently exist.

23. Physical and economic factors justify limited-purpose use of certain waters.

24. The highest and best use of the waters of the Wasco Area is for domestic and livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife, fish life and pollution abatement purposes.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with ORS 536.300(2) pertaining to the water resources of the Hood Basin:

A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Hood Basin and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife, fish life, pollution abatement uses, and the waters of the Hood Basin are hereby so classified with the following exception:

> The maximum economic development of this state, the attainment of the highest and best use of the waters of Dog River above its point of diversion at Water Resources Department - U.S. Geological Survey Gage 1134, as shown on State Water Resources Board Map 4.6, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for municipal use and the waters of Dog River above its point of diversion at Water Resources Department - U.S. Geological Survey Gage 1134, as shown on State Water Resources Board Map 4.6, are hereby so classified.

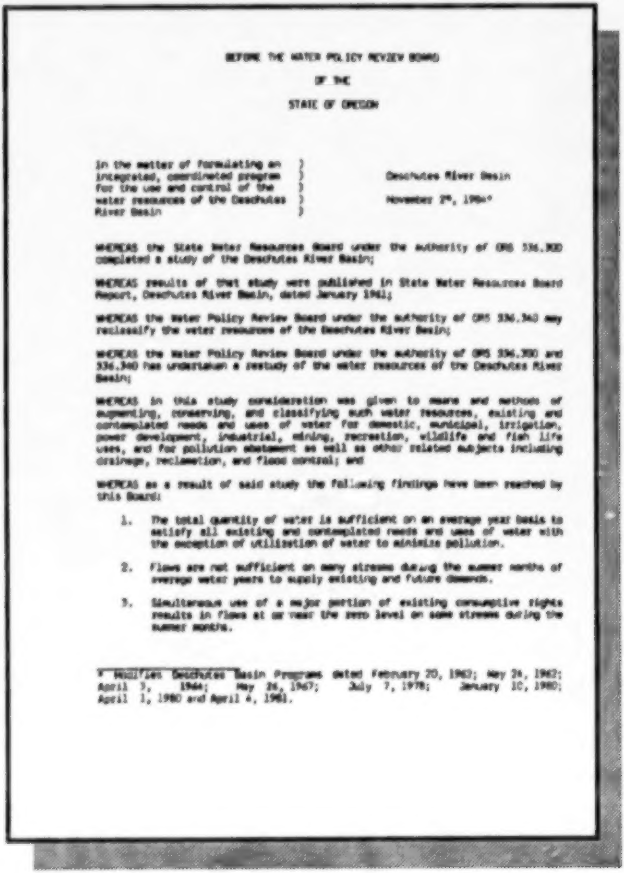
B. The maximum economic development of this state and the attainment of the highest and best use of the waters of the natural lakes of the Hood Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7 1/2 theoretical horsepower, recreation, wildlife, and fish life uses and the waters of natural lakes of the basin are hereby so classified.

C. For the purpose of maintaining a minimum perennial streamflow sufficient to support aquatic life, no appropriations of water except for domestic, livestock or municipal uses or waters to be legally stored or legally released from storage shall be made or granted by a state agency or public corporation of the state for the waters of:

1. Hood River above Powerdale Diversion Dam for flows below 45 cubic feet per second measured at said dam and maintained to the mouth of Hood River.

2. West Fork Hood River and its tributaries above U.S. Geological Survey - Water Resources Department Gage 1185 one-half mile above the mouth for flows of below 100 cubic feet per second measured at said gage and maintained to the mouth of West Fork Hood River.

3. Middle Fork Hood River and its tributaries above its mouth for flows of below 10 cubic feet per second measured at said point.



BEFORE THE WATER POLICY REVIEW BOARD

OF THE

STATE OF OREGON

In the matter of formulating an integrated, coordinated program for the use and control of the water resources of the Deschutes River Basin	)))))	Deschutes River Basin November 29, 1984*

WHEREAS the State Water Resources Board under the authority of ORS 536.300 completed a study of the Deschutes River Basin;

WHEREAS results of that study were published in State Water Resources Board Report, Deschutes River Basin, dated January 1961;

WHEREAS the Water Policy Review Board under the authority of ORS 536.340 may reclassify the water resources of the Deschutes River Basin;

WHEREAS the Water Policy Review Board under the authority of ORS 536.300 and 536.340 has undertaken a restudy of the water resources of the Deschutes River Basin;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving, and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average year basis to satisfy all existing and contemplated needs and uses of water with the exception of utilization of water to minimize pollution.

2. Flows are not sufficient on many streams during the summer months of average water years to supply existing and future demands.

3. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on some streams during the summer months.

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* Modifies Deschutes Basin Programs dated February 20, 1962; May 24, 1962; April 3, 1964; May 26, 1967; July 7, 1978; January 10, 1980; April 1, 1980 and April 6, 1981.

TABLE 1
Minimum Perennial Streamflows
(Cubic Feet per Second)

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
Hood River: at Powerdale Dam to be maintained to the mouth												
45 100*	45 100*	45 170*	45 170*	45 270*	45 270*	45 270*	45 170*	45 170*	45 130*	45 100*	45 100*	9-22-45 11-3-83
Middle Fork Hood River: at the mouth												
10	10	10	10	10	10	10	10	10	10	10	10	9-22-45
East Fork Hood River: at the mouth												
150	150	150	100	100	100	150	150	150	100	100	100	11-3-83
West Fork Hood River: at stream gage 14118500 (located in the E 1/2, Section 1, T1N, R9E WM) and maintained to the mouth												
100	100	100	100	100	100	100	100	100	100	100	100	9-22-45
Neal Creek: at the mouth												
20	20	13	13	13	13	20	20	20	13	13	5	11-3-83
Mill Creek: at the mouth												
6	15	15	15	15	15	15	15	15	10	10	6	11-3-83
Fifteenmile Creek: at stream gage 14104500 at Rice (Section 3, T1S, R14E, WM) and maintained to the mouth												
6	6	6	6	6	13	20	20	20	13	13	6	11-3-83

* Earlier priority date for a portion of the indicated flow.

4392A

38. In the Clackamas Subbasin, minimum perennial streamflows for the protection of aquatic life should be set at selected points along the Clackamas River and at the mouths of its tributaries, Clear Creek, Deep Creek, Eagle Creek, Fish Creek, Roaring River, and Collawash River.

39. In the Columbia Subbasin minimum perennial streamflows for the protection of aquatic life should be set on Milton Creek and its tributaries, Cox and Salmon Creeks, during the storage period and on North and South Scappoose Creeks and their tributaries, Alder, Cedar, Lizzie, North Fork of North Scappoose, Deep, South Fork of North Scappoose, Gourlay, and Raymond Creeks.

40. There are streams in the Lower Willamette Basin that have been withdrawn by the Legislature or the State Engineer.

NOW, THEREFORE, BE IT RESOLVED that this Board hereby adopts the following program in accordance with ORS 536.300 (2) pertaining to the water resources of the Tualatin, Clackamas, Columbia, and the Sandy Subbasins of the Lower Willamette Basin:

A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Lower Willamette Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters as follows:

   In the TUALATIN SUBBASIN
   Only for domestic, livestock, municipal, irrigation, power development, industrial, recreation, wildlife and fish life uses, with the following exceptions:

   1) The Tualatin River mainstem to Lee Falls, the mainstems of McKay, Gales, East Fork Dairy and Dairy Creeks, are classified only for domestic, livestock, municipal, irrigation, power development in conjunction with existing power generating facilities, industrial, recreation, wildlife and fish life uses;

   2) The mainstem of West Fork Dairy Creek is classified only for domestic, livestock, municipal, irrigation, power development in conjunction with existing power generating facilities, industrial, recreation, wildlife, fish life and pollution abatement uses;

   3) For a period from July 31 through September 15 of each year, all waters are classified only for human and livestock consumption except that stored water may be used at any time for the above specified beneficial uses.

   In the UPPER CLACKAMAS SUBBASIN (CLACKAMAS RIVER AND TRIBUTARIES ABOVE RIVER MILL DAM)
   Only for domestic, livestock, municipal, power development, recreation, wildlife and fish life uses;

In the LOWER CLACKAMAS SUBBASIN

Only for domestic, livestock, municipal, irrigation, power development not to exceed 25 theoretical horsepower, recreation, wildlife and fish life uses, except as follows:

Clackamas River (mainstem) below River Mill Dam only for human consumption, livestock consumption, and instream use for recreation, wildlife and fish life uses.

The mainstems of Clear Creek, Deep Creek and Eagle Creek only for domestic, livestock, municipal, irrigation, recreation, wildlife and fish life uses.

In the SCAPPOOSE DRAINAGE OF THE COLUMBIA SUBBASIN

Where not affected by legislative withdrawals, only for domestic, livestock, municipal, recreation, wildlife, and fish life uses;

In the SANDY SUBBASIN

The tributaries of the Bull Run and Little Sandy Rivers only for the exclusive use of the City of Portland.

The waters of the Lower Willamette Basin are hereby so classified with the following exceptions:

1. The maximum economic development of this state, the attainment of the highest and best use of the waters of all natural lakes of the Lower Willamette Basin situated above an elevation of 3,000 feet mean sea level and Huxley Lake (Section 33, Township 4 South, Range 6 East), and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommerical garden not to exceed one-half acre in area, power development not to exceed 7 1/2 theoretical horsepower, recreation, wildlife, and fish life uses, and the waters of all natural lakes, not withdrawn by legislation, of the Lower Willamette Basin situated above an elevation of 3,000 feet mean sea level and Huxley Lake are hereby so classified.

2. The maximum economic development of this state, the attainment of the highest and best use of the waters of the upper reaches of the streams listed below, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or non-commerical garden not to exceed one-half acre in area, power development, recreation, wildlife, and fish life uses, and the following streams are hereby so classified:

13. McKay Creek or its tributaries above river mile 15.5 (NE 1/4, Section 24, Township 2 North, Range 3 West) for flows of McKay Creek below 4 cubic feet per second for the period beginning August 1 and ending September 30, and 36 cubic feet per second for the period beginning November 16 and ending May 31 measured at or near river mile 15.5.

14. East Fork of McKay Creek or its tributaries above the mouth (SW 1/4, Section 18, Township 2 North, Range 2 West) for flows of East Fork of McKay Creek below 2 cubic feet per second for the period beginning August 1 and ending September 30 measured at or near the mouth.

15. McFee Creek or its tributaries above the confluence of Gulf Canyon Creek (SE 1/4, Section 18, Township 2 South, Range 2 West) for flows of McFee Creek below 2 cubic feet per second for the period beginning August 1 and ending September 30, and 12 cubic feet per second for the period beginning November 15 and ending May 31 measured at or near the confluence of McFee and Gulf Canyon Creeks.

16. The Tualatin River or its tributaries above USGS-State Engineer Gage No. 14-2075 (SW 1/4, Section 34, Township 2 South, Range 1 East) at West Linn, Oregon, in the amounts specified:

C. To support aquatic life and minimize pollution, in accordance with Section 3, Chapter 796, Oregon Laws, 1983, no appropriation of water shall be made or granted by any state agency or public corporation of the state for waters of the normal water course of the West Fork Dairy Creek and tributaries when the flows are below the levels specified in Table 1. This limitation shall not apply to:

1. Domestic, municipal, and livestock uses.
2. Water legally stored or released from storage.

Attainment of the specified flow levels during some portion of the year will require use of stored water or other measures to augment flows.

D. For the purpose of maintaining a minimum perennial streamflow sufficient to support aquatic life and of attaining the highest and best use of the waters released from storage, no appropriation of water except for domestic or livestock uses or waters to be legally stored or legally released from storage shall be made or granted by any state agency or public corporation of the state for the following waters and as shown in Table 2.

WILLAMETTE RIVER

The Willamette River or its tributaries above Willamette Falls at Oregon City for natural flows of the Willamette River below 1,500 cubic feet per second plus waters released from storage of up to 4,700 cubic feet per second measured at or near said Willamette Falls and maintained to the mouth.

CLACKAMAS SUBBASIN

1. Lowe Creek or its tributaries above the mouth (Section 19, Township 7 South, Range 8 East) for flows of Lowe Creek below 2 cubic feet per second for the period beginning July 1 and ending October 31, and 8 cubic feet per second for the period beginning November 1 and ending June 30 measured at or near the mouth.

2. Pinhead Creek or its tributaries above the mouth (Section 6, Township 7 South, Range 8 East) for flows of Pinhead Creek below 30 cubic feet per second for the period beginning June 1 and ending October 31, and 75 cubic feet per second for the period beginning November 1 and ending May 31 measured at or near the mouth.

3. The Clackamas River or its tributaries above USGS-Federal Power Commission Gage No. 14-2080 (SE 1/4, Section 26, Township 6 South, Range 7 East) at Big Bottom for flows of the Clackamas River below 150 cubic feet per second for the period beginning July 1 and ending September 15, and 240 cubic feet per second for the period beginning September 16 and ending June 30 measured at the aforementioned gage.

4. The Collawash River or its tributaries above the mouth (SE 1/4, Section 22, Township 6 South, Range 6 East) for flows of the Collawash River below 75 cubic feet per second for the period beginning July 16 and ending September 15, 250 cubic feet per second for the period beginning September 16 and ending May 31, and 200 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

5. East Fork Collawash River or its tributaries above the mouth (Section 6, Township 8 South, Range 7 East) for flows of East Fork Collawash River below 10 cubic feet per second for the period beginning August 1 and ending September 30 measured at or near the mouth.

6. Elk Lake Creek or its tributaries above the mouth (Section 6, Township 8 South, Range 7 East) for flows of Elk Lake Creek below 15 cubic feet per second for the period beginning August 1 and ending September 30 measured at or near the mouth.

7. Hot Springs Fork of the Collawash River or its tributaries above the mouth (SW 1/4, Section 3, Township 7 South, Range 6 East) for flows of Hot Springs Fork Collawash River below 15 cubic feet per second for the period beginning July 16 and ending September 15, and 75 cubic feet per second for the period beginning September 16 and ending July 15 measured at or near the mouth.

2. Cox Creek or its tributaries above the mouth (SW 1/4, Section 1, Township 4 North, Range 2 West) for flows of Cox Creek below 6 cubic feet per second for the period beginning November 1 and ending April 30 measured at or near the mouth.

3. Salmon Creek or its tributaries above the mouth (SE 1/4, Section 35, Township 5 North, Range 2 West) for flows of Salmon Creek below 5 cubic feet per second for the period beginning November 1 and ending April 30 measured at or near the mouth.

4. North Scappoose Creek or its tributaries above the mouth (SE 1/4, Sectioin 1, Township 3 North, Range 2 West) for flows of North Scappoose Creek below 5 cubic feet per second for the period beginning July 16 and ending October 31, 40 cubic feet per second for the period beginning November 1 and ending May 31, and 20 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

5. Alder Creek or its tributaries above the mouth (NW 1/4, Section 21, Township 4 North, Range 2 West) for flows of Alder Creek below 1 cubic foot per second for the period beginning July 1 and ending October 31, 8 cubic feet per second for the period beginning November 1 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending June 30 measured at or near the mouth.

6. Cedar Creek or its tributaries above the mouth (SE 1/4, Section 18, Township 4 North, Range 2 West) for flows of Cedar Creek below 1 cubic foot per second for the period beginning July 1 and ending October 31, 6 cubic feet per second for the period beginning November 1 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending June 30 measured at or near the mouth.

7. Chapman Creek (Lizzie Creek) or its tributaries above the mouth (SE 1/4, Section 13, Township 4 North, Range 3 West) for flows of Chapman Creek below 1 cubic foot per second for the period beginning July 1 and ending October 31, 6 cubic feet per second for the period beginning November 1 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending June 30 measured at or near the mouth.

8. North Fork of North Scappoose Creek or its tributaries above the mouth (SE 1/4, Section 14, Township 4 North, Range 3 West) for flows of North Fork of North Scappoose Creek below 1 cubic foot per second for the period beginning July 16 and ending October 31, 7 cubic feet per second for the period beginning November 1 and ending May 31, and 3 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

9. Sierkes Creek (Deep Creek) or its tributaries above the mouth (NE 1/4, Section 34, Township 4 North, Range 2 West) for flows of Sierkes Creek below 0.5 cubic foot per second for the period beginning June 16 and ending October 31, and 7 cubic feet per second for the period beginning November 1 and ending June 15 measured at or near the mouth.

10. South Fork of North Scappoose Creek or its tributaries above the mouth (SE 1/4, Section 14, Township 4 North, Range 3 West) for flows of South Fork of North Scappoose Creek below 1 cubic foot per second for the period beginning July 1 and ending October 31, 8 cubic feet per second for the period beginning November 1 and ending May 31, and 4 cubic feet per second for the period beginning June 1 and ending June 30 measured at or near the mouth.

11. South Scappoose Creek or its tributaries above the confluence of Raymond Creek (SE 1/4, Section 15, Township 3 North, Range 2 West) for flows of South Scappoose Creek below 5 cubic feet per second for the period beginning July 1 and ending October 31, 25 cubic feet per second for the period beginning November 1 and ending May 31, and 12 cubic feet per second for the period beginning June 1 and ending June 30 measured at or near the confluence of South Scappoose and Raymond Creeks.

12. Gourlay Creek or its tributaries above the mouth (NE 1/4, Section 17, Township 3 North, Range 2 West) for flows of Gourlay Creek below 0.5 cubic foot per second for the period beginning July 16 and ending October 31, 10 cubic feet per second for the period beginning November 1 and ending May 31, and 2 cubic feet per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

13. Raymond Creek or its tributaries above the mouth (SE 1/4, Section 15, Township 3 North, Range 2 West) for flows of Raymond Creek below 0.5 cubic foot per second for the period beginning July 16 and ending October 31, 8 cubic feet per second for the period beginning November 1 and ending May 31, and 1 cubic foot per second for the period beginning June 1 and ending July 15 measured at or near the mouth.

E. Applications for the use of the waters of the Lower Willamette Basin shall not be accepted by any state agency for any other purpose and the granting of applications for such other purposes is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.

7. Further clarification of water rights both as to quantity of water and irrigated area is needed in the Hood River Valley.

8. The waters of the streams forming waterfalls near the Columbia River Highway have been withdrawn from appropriation, condemnation, diversion or interruption by statute under ORS Chapter 538.

9. Domestic, industrial, recreation, mining, livestock, and wildlife uses, while important, represent comparatively small quantities of water in existing and contemplated future needs.

10. Municipal use, mainly from springs, is a small, but important consumptive use when determining water needs.

11. Irrigation accounts for over 95 percent of the consumptively used water and will continue to be the major consumptive use.

12 Additional development of orchards within the watershed is of great importance to the local economy and the state.

13. Green Point and Dead Point Creeks and tributaries have been identified as future water sources for irrigation of additional orchards. Irrigaton of orchards from those streams is more important than the support of aquatic life.

14. Efficiency of water use could be improved by extensive rehabilitation of transmission and distribution facilities.

15. Development of additional hydroelectric power appears economically and physically feasible.

16. Recreational use of inland waters including the Columbia River reservoir pools is of major importance and is associated primarily with sport fishing, boating, swimming, sightseeing, and waterfowl hunting.

17. There are several natural and manmade lakes available for water-based recreation within the basin.

18. Use of the Hood River and gorge headwater streams by fish life is of importance to the Hood Area and the state. Development proposals on the Hood River and other major streams should consider anadromous fish runs.

19. Restrictions on further appropriation of natural streamflow would materially aid in maintaining minimum flows to support aquatic life and recreation on the main stem, Middle Fork, and West Fork of Hood River.

20. Maintenance of minimum perennial streamflows to support aquatic life in the Hood River Basin would be beneficial to the area and the state.

21. Minimum perennial flow levels recommended by the Oregon Department of Fish and Wildlife are based on anadromous fish requirements.

22. Pollution of surface and ground water is localized, intermittent in occurrence and is only critical in a few urban and industrial areas.

23. Serious damage, caused by flooding and erosion, frequently occurs along major streams fed by Mt. Hood glaciers and in cropped areas.

24. Drainage problems exist in a few urban and rural areas.

25. Physical and economic factors justify limited-purpose use of certain waters.

26. The maximum beneficial use of the waters of the Hood Area is for domestic and livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife, and fish life purposes.

WHEREAS as a result of said study the following findings and conclusions were reached by this board pertaining to the Wasco Area of the Hood Basin:

1. Total quantities of surface water are inadequate to meet all contemplated future needs for water.

2. The ground water resource is inadequate in most areas to meet existing needs.

3. The area underlain by The Dalles and Threemile Ground Water Pools has been declared a critical ground water area.

4. Coordinated development of surface and ground water ,is required for progressive, stable growth.

5. Augmentation of water supply during low flow periods can come through storage of surplus runoff, management of ground water supplies to include artificial recharge where feasible, and more efficient use of presently appropriated waters.

6. An adjudication decree provides for the diversion of all Dog River water at the present diversion point from the Hood Area to the Mill Creek drainage basin for municipal use, but does not fully protect flows existing above the diversion point.

7. Maximum utilization of water requires further clarification of water rights both as to quantity of water and irrigated area in the Wasco Area.

8. Domestic, industrial, recreation, livestock, and wildlife uses, while important, represent comparatively small quantities of water in existing and contemplated future needs.

9. Municipal use, mainly from Mill Creek and ground water, is an important and growing consumptive use when determining water needs.

10. Water requirements for suitable irrigable areas greatly exceed presently available water supplies although there are sufficient water resources that could be made available to more than treble the irrigated acreage to 21,300.

D. To support aquatic life and minimize pollution, in accordance with Section 3, Chapter 796, Oregon Laws, 1983, no appropriation of water shall be made or granted by any state agency or public corporation of the state for waters of the streams listed in Table 1 and tributaries when flows are below the specified levels. This limitation shall not apply to:

1. Human and livestock consumption
2. Municipal use
3. Water legally released from storage.
4. Irrigation use from Green Point and Dead Point Creeks and tributaries (applicable to flow on the mainstem Hood River priority 11-3-83 only)
5. Water legally stored on Mill or Fifteenmile Creek and tributaries.

Attainment of the specified flow levels on most streams during some portions of the year will require development of water storage or implementation of other measures.

E. Applications for the use of these specified waters of the Hood Basin shall not be accepted by any state agency for any other use and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.

F. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

G. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give cognizance to the multiple-purpose concept.

Dated March 23, 1985.

WATER POLICY REVIEW BOARD

William H. Young
WILLIAM H. YOUNG, DIRECTOR
WATER RESOURCES DEPARTMENT

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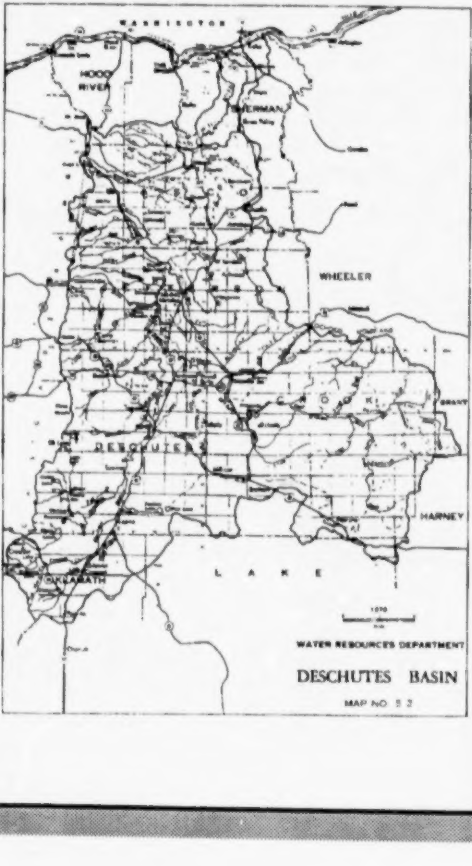
WASHINGTON
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WATER RESOURCES DEPARTMENT
DESCHUTES BASIN
MAP NO. 5.2

4. Augmentation of the water resources can be achieved through storage of surplus winter and spring runoff; reduction of storage, channel, and transmission losses; and more efficient use of presently appropriated water.

5. There are physically feasible storage sites in the basin.

6. Unappropriated waters of the Deschutes River and its tributaries above Bend, Tumalo Creek above Columbia-Southern Canal, Crooked River, Ochoco Creek and White River and its tributaries have been withdrawn for special uses.

7. The established limited purposes of existing storage developments restrict multiple beneficial use of the water resources.

8. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.

9. Domestic, livestock, and municipal uses of water, while important, represent minor quantities in existing and contemplated future water use.

10. Irrigation is and will continue to be the major consumptive water use in the basin.

11. Adequately irrigated agricultural lands represent only a small portion of the total irrigated area.

12. The existing irrigated acreage could be more than doubled providing an adequate supply of water were available.

13. The basin has substantial potential for power development.

14. The basin has potential for industrial development.

15. Sufficient water will not be available in many locations for major water-using industries without provision for seasonal storage, acquisition of existing rights, or development of ground water resources.

16. The use of water for mining purposes is slight and is not expected to increase materially in the foreseeable future.

17. Recreation is a major use of water and an important factor in the economy of the basin.

18. There is an abundance of reservoirs, lakes and streams available for water-based recreation in the western portion of the basin.

19. There is potential for more extensive use of existing waters for recreation purposes.

20. In the area of intermittent streams, reservoirs provide water-based recreation.

21. Water consumption by wildlife does not represent a significant quantity.

22. A major conflict exists between irrigation and fish life use of water.

23. A major conflict exists between power and fish life use of water.

24. Reduction of present reservoir and stream level fluctuations, maintenance of minimum reservoir levels and improved streamflows would enhance fish life and recreation.

25. River related recreation is important to the economy of the upper Deschutes Basin.

26. The support of resident and stocked fish is essential to river-related recreation.

27. Recommended base flows suggested by fisheries agencies are substantially higher in many locations than flow levels that can be obtained during average water years under current stream regimen and existing water rights and priorities.

28. Storage and scheduled releases of excess winter and spring runoff, reduction of channel and transmission losses, or acquisition of some existing rights would be necessary to obtain the flows recommended by fisheries agencies. The economic feasibility of such measures has not been determined.

29. Pollution of surface and ground water is not a significant problem at present.

30. Floods, drainage and streambank erosion are not major problems.

31. Major foreseeable quantitative uses of water in the Deschutes River Basin will be for irrigation, power, recreation, and fish life uses.

32. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.

33. Establishment of restrictions on further appropriations would prevent an increase in depletion potential on some streams which would aid in maintaining minimum flows.

34. Where streams are seasonally overappropriated, the establishment of restrictive actions would have no immediate physical effect until additional flows become available.

35. Criteria for determination of desirable base flows commensurate with all beneficial uses have not been developed. Flow levels for recreational use may be substantially greater than flows recommended for the support of aquatic life.

36. It is imperative that single-purpose development of available sites does not preclude optimum utilization of the resource.

37. Certain major rivers, or river sections, and numerous lakes, minor streams, and creeks are by nature of their physiography, location, land ownership, or economic potential available only for limited resource uses.

38. Physical features, degree of economic development, and water use requirements vary from subbasin to subbasin.

NOW THEREFORE BE IT RESOLVED that for reason of variance in physical features, degree of economic development, and water use requirements from subbasin to subbasin, the Board adopts the following findings and issues program statements for each of the subbasins of the Deschutes River Basin.

UPPER DESCHUTES RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Upper Deschutes River Basin as delineated on State Water Resources Board Map, File 5.7014;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average-year basis to satisfy all existing and contemplated needs and uses of water with the exception of utilization of water to minimize pollution.

2. There is not enough water legally available on a critical-year basis to meet existing and contemplated consumptive needs within this basin.

3. Maldistribution exists with regard to physical location and with respect to availability during time of need.

4. Many streams do not provide enough flow for present nonconsumptive public uses in periods of relatively low as well as critical flow.

5. Augmentation of the water resources in periods of need would require storage of surplus runoff.

6. There are physically feasible storage sites in the basin.

7. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.

8. All unappropriated waters of the Deschutes River and its tributaries above Bend have been withdrawn by the State Engineer for domestic, irrigation and power purposes.

9. A major portion of the withdrawn waters has been appropriated.

10. There is need to insure water for domestic, livestock, and municipal uses which, while small, are of benefit to the state.

11. Irrigation use of water is small in this basin and is not expected to increase materially in the foreseeable future.

12. Substantial quantities of water have been appropriated for irrigation use in downstream basins.

13. Power development appears to be economically and physically feasible.

14. There is limited potential for industrial use of water.

15. There are no existing water rights for mining operations in the basin. Potential for such use of water appears to be minor.

16. The basin has potential for expanded recreation use of water. The natural lakes and reservoirs constitute valuable recreation assets.

17. Water consumption by wildlife does not represent a significant quantity.

18. There are no anadromous fish in the basin, but resident fish constitute an important asset of the state.

19. There is potential for development of anadromous fish, but this cannot be achieved without the improvement of fish passage and low-flow conditions.

20. Conflicts exist between fish life and irrigation uses of water.

21. Pollution of surface and ground water is not a significant problem.

22. Drainage and reclamation of drained lands are not significant factors in present and contemplated water use.

23. Flood problems are minor.

C. Applications for the use of the waters of the Upper Deschutes River Basin shall not be accepted by any state agency for any other uses and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.

D. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on the condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

E. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed and operated in conformity with applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

MIDDLE DESCHUTES RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Middle Deschutes River Basin as delineated on State Water Resources Board Map, File 5.7014.

WHEREAS in this study consideration was given to means and methods of augmenting, conserving, and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average-year basis to satisfy all existing and contemplated needs and uses of water in this basin with the exception of utilization of water to minimize pollution.

2. Maldistribution exists with regard to physical location and with respect to availability during time of need.

3. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.

4. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.

5. There are legislative restrictions on the use of waters of Tumalo Creek.

6. There is need to insure water for domestic, livestock and municipal uses which, while small, are of benefit to the state.

7. Irrigation is and will continue to be the major consumptive use of water.

8. Natural flow and present degree of regulation are insufficient to satisfy existing irrigation requirements.

9. Water supply will be a limiting factor in developing potential irrigable land.

10. Augmentation of the water resources in periods of need can be achieved through storage of surplus winter and spring runoff; reduction of storage, channel, and transmission losses; and more efficient use of presently appropriated water.

11. There are physically feasible storage sites.

12. There is substantial potential for power development.

13. The development of the power potential could seriously conflict with recreation and fish life values.

14. There is considerable potential for industrial use of water.

15. Storage and scheduled releases of surplus winter and spring runoff; reduction of channel and transmission losses; or acquisition of some existing rights would be necessary to obtain the waters needed by major water-using industries.

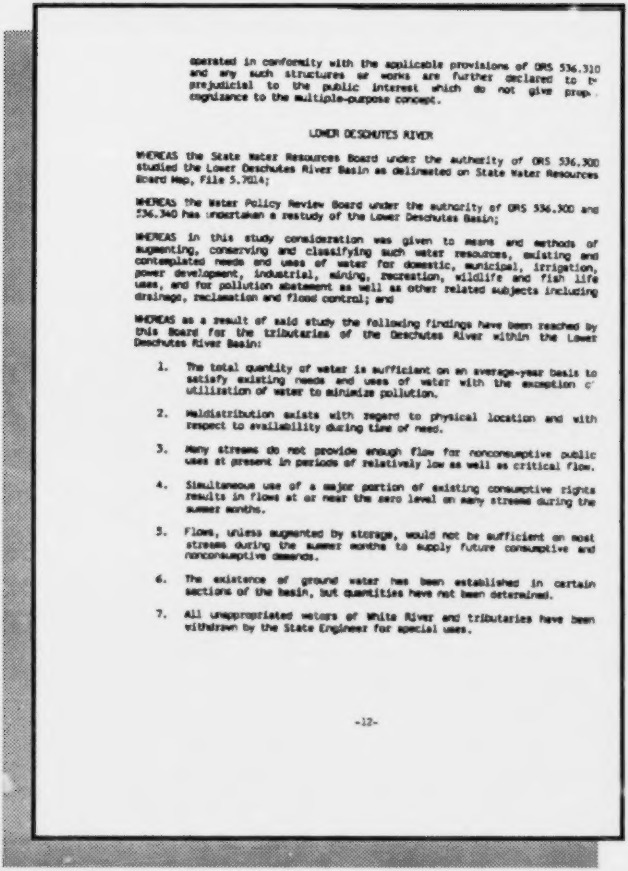
16. Use of water for mining purposes is slight and is not expected to increase materially in the foreseeable future.

17. Recreation is a major use of water.

18. The Metolius River is superior as a natural recreation value.

19. Water consumption by wildlife does not represent a significant quantity.

20. There is inadequate streamflow for fishery requirements.



operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to b prejudicial to the public interest which do not give prop cognizance to the multiple-purpose concept.

LOWER DESCHUTES RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 studied the Lower Deschutes River Basin as delineated on State Water Resources Board Map, File 5.7014;

WHEREAS the Water Policy Review Board under the authority of ORS 536.300 and 536.340 has undertaken a restudy of the Lower Deschutes Basin;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board for the tributaries of the Deschutes River within the Lower Deschutes River Basin:

1. The total quantity of water is sufficient on an average-year basis to satisfy existing needs and uses of water with the exception o utilization of water to minimize pollution.

2. Maldistribution exists with regard to physical location and with respect to availability during time of need.

3. Many streams do not provide enough flow for nonconsumptive public uses at present in periods of relatively low as well as critical flow.

4. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.

5. Flows, unless augmented by storage, would not be sufficient on most streams during the summer months to supply future consumptive and nonconsumptive demands.

6. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.

7. All unappropriated waters of White River and tributaries have been withdrawn by the State Engineer for special uses.

8. There is need to insure quantities of water for domestic, livestock, and municipal uses which, while small, are of benefit to the state.

9. Irrigation is and will continue to be the major consumptive use of water.

10. Potential exists for the development of the agricultural economy through expanded irrigation.

11. The unavailability of dependable supplies of adequate water in the future would be a restriction on the development of the agricultural potential of the basin.

12. Power development appears to be economically and physically feasible.

13. There is limited potential for industrial use of water.

14. Use of water for mining purposes is slight and is not expected to increase materially in the foreseeable future.

15. Recreation is an important use of water in the basin.

16. Water consumption by wildlife does not represent a significant quantity.

17. Full development of the anadromous fishery potential cannot be achieved without the improvement of fish passage and low-flow conditions.

18. Material improvement of minimum flows for fish life cannot be achieved without the development of surface water storage.

19. Pollution of surface and ground water is not a significant problem.

20. Major foreseeable quantitative uses of water of the Lower Deschutes Basin will be for irrigation, recreation, and fish life.

21. Drainage and reclamation of drained lands are not significant factors in present and contemplated water use.

22. Limited flood problems exist, mainly on the eastern tributaries of the Deschutes River.

23. There are physically-feasible storage sites within the basin.

24. Small reservoirs on minor tributaries could reduce flash floods and streambank erosion and provide late-season irrigation water.

25. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.

TABLE 2
Minimum Perennial Streamflows
(Cubic Feet per Second)

OCT	NOV	DEC	JAN	FEB 1-15	FEB 16-29	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
Measured at USGS gage 14101400 and maintained to the confluence of the White River and Deschutes River													
60	60	60	60	60	100	145	145	145	100	60	60	60	1-10-80
60	60	60	60	60	95	95	95	95	95	60	60	60	5-24-62

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TABLE 2
Minimum Perennial Streamflows
(Cubic Feet per Second)

OCT	NOV	DEC	JAN	FEB 1-15	FEB 16-29	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
Measured at USGS gage 14101400 and maintained to the confluence of the White River and Deschutes River													
60	60	60	60	60	100	145	145	145	100	60	60	60	1-10-80
60	60	60	60	60	95	95	95	95	95	60	60	60	5-24-62

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DESCHUTES - LOWER CROOKED RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Deschutes - Lower Crooked River Basin as delineated on State Water Resources Board Map, File 5.7014;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving, and classifying such water resources, existing and contemplated needs and uses of water for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average year basis to satisfy all existing and contemplated consumptive needs and uses of water.
2. There are streams within the basin whose average annual yield is not sufficient to satisfy existing rights.
3. Maldistribution exists with regard to physical location and with respect to availability during time of need.
4. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.
5. Most streams in the basin do not provide enough flow for nonconsumptive public uses at present in periods of relatively low as well as critical flow.
6. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.
7. There is need to insure water for domestic, livestock, municipal and mining uses which, while small, are of benefit to the state.
8. Irrigation is and will continue to be the major consumptive use of water.
9. There is additional potential for irrigation use of water.
10. Power development appears to be economically and physically feasible.
11. There is potential for industrial use of water.
12. Sufficient water will not be available in many locations for major water-using industries without the provision of seasonal storage.

13. Reservoirs will provide a major portion of water-based recreation.

14. The waters of the Crooked River, including Opal Springs, from river mile 6.3 to river mile 10.0, are a valuable source of municipal, irrigation, and industrial water.

15. Little potential for enhancement of fish life exists and is dependent upon securing adequate streamflow.

16. Increases of population and the need to serve presently unsewered areas will require municipal sewerage works to be expanded.

17. Limited flood problems exist.

18. A coordinated plan of operation of Ochoco and Prineville Reservoirs will materially alleviate flood damages in the Prineville Valley.

19. There are physically feasible storage sites within the basin.

20. Small reservoirs on minor tributaries could reduce flash floods and streambank erosion and provide late-season irrigation water.

21. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.

22. Certain river sections, minor streams and creeks are by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.

23. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed.

24. The maximum beneficial use of the waters of the Deschutes - Lower Crooked River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Deschutes - Lower Crooked River Basin:

A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Deschutes - Lower Crooked River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Deschutes - Lower Crooked River Basin are hereby so classified with the following exceptions:

TABLE 3 CONTINUED
TUALATIN SUBBASIN
MINIMUM PERENNIAL STREAMFLOWS (Cubic Feet Per Second)

OCT 1-15/16-31	NOV 1-15/16-30	DEC	JAN	FEB	MAR	APR	MAY	JUN 1-15/16-30	JUL 1-15/16-31	AUG	SEP	Priority Date
Dairy Creek above the mouth												
2	2/13	13	13	13	13	13	13	3	3	2	2	5-25-60
[illegible] Creek above the mouth												
1	1/5	5	10	5	5	5	5	3	3	1	1	5-25-60
McKay Creek above river mile [illegible]												
-	-/30	30	30	30	30	30	30	-	-	6	6	5-25-60
East Fork [illegible] Creek above the mouth												
-	-	-	-	-	-	-	-	-	-	2	2	5-25-60
[illegible] Creek above the confluence of [illegible] Creek [illegible]												
-	-/12	12	12	12	12	12	12	-	-	2	2	5-25-60
Tualatin River above gage [illegible]												
(natural flow) 30*	30*	30	30	30	30	30	30	30	30/13	13	13	5-25-60
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6-20-75
(storage releases from [illegible] Reservoir: [illegible]) [illegible]								[illegible]	[illegible]	75	40	6-20-75
(total storage releases: [illegible]) [illegible]								250	250	250	250	6-20-75

* Earliest priority date for all or part of the indicated flow at the gage.

(1) Exempts municipal use

(2) Reduced 6-20-75

(3) Flows adopted in [illegible] and [illegible] shall be maintained to the mouth of the Tualatin River.

TABLE 1

[illegible] SUMMARY

MINIMUM PERENNIAL STREAMFLOWS (Cubic Feet Per Second)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-	1	1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-	-	[illegible]	[illegible]
[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	1	[illegible]
[illegible]	-	-	-	-	-	-	-	-	-	-	1	1	[illegible]
[illegible]	1.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.5	1.5	[illegible]
[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 1
Minimum Perennial Streamflows
(Cubic Feet per Second)

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Priority Date
Deschutes River - to be maintained from Wickiup Reservoir to the confluence of the Little Deschutes River												
300	300	300	300	300	300	300	300	300	300	300	300	11-3-83
Deschutes River - to be maintained from Little Deschutes River to the confluence of Spring River												
400	400	400	400	400	400	400	400	400	400	400	400	11-3-83
Deschutes River - to be maintained from Spring River to North Canal Dam at Bend												
660	660	660	660	660	660	660	660	660	660	660	660	11-3-83

4929B

24. Utilization of flows to minimize pollution should not be permitted if such use interferes with the multiple-purpose concept.

25. Certain lakes are, by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.

26. The maximum beneficial use of the waters of the Upper Deschutes River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Upper Deschutes River Basin:

A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Upper Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Upper Deschutes River Basin are hereby so classified with the following exception:

> The maximum economic development of this state, the attainment of the highest and best use of the waters of the natural lakes of the Upper Deschutes River Basin, except for Crescent Lake, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7 1/2 theoretical horsepower, recreation, wildlife and fish life uses and the waters of the natural lakes, Upper Deschutes River Basin, except for Crescent Lake, are hereby so classified.

B. To support aquatic life and minimize pollution, in accordance with Section 3, Chapter 796, Oregon Laws, 1983, no appropriation of water shall be made or granted by any state agency or public corporation of the state for waters of the Upper Deschutes River and tributaries when flows are below the levels specified in Table 1. This limitation shall not apply to:

1. Human and livestock consumption.
2. Water legally released from storage.

Attainment of the specified flow levels during some portions of the year will require development of water storage or implementation of other measures to augment flows.

21. Base flows recommended by fisheries agencies are substantially higher in many locations than flow levels that can be obtained during average water years under current stream regimen and existing wate rights and priorities.

22. Pollution of surface and ground water is not a significant problem.

23. Major foreseeable quantitative uses of water will be for irrigation, power, recreation and fish life.

24. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.

25. Maintenance of minimum perennial streamflows would generally benefit recreation, wildlife and fish life.

26. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed.

27. Certain river sections, minor streams, creeks and lakes are by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.

28. The maximum beneficial use of the waters of the Middle Deschutes River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Middle Deschutes River Basin:

A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Middle Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Middle Deschutes River Basin are hereby so classified with the following exceptions:

   1. The State Water Resources Board program, Lower Main Stem Deschutes River, adopted April 3, 1964, as modified by the Water Policy Review Board.

   2. The maximum economic development of this state, the attainment of the highest and best use of the waters of the main stem, Metolius River, above river mile 13.0, and the attainment of an integrated and coordinated program for the benefit of the state

as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or non-commercial garden not to exceed one-half acre in area, power development, recreation, wildlife and fish life uses and the waters of the main stem, Metolius River, above river mile 13.0, are hereby so classified.

3. Further, no out-of-basin diversions of the waters of the mainstem Metolius River, above river mile 13.0, shall be permitted for any use.

4. No further appropriations except for domestic or livestock uses shall be permitted for waters of the mainstem Deschutes River, from the head of Lake Billy Chinook near river mile 120 to the North Canal Dam near river mile 165.

5. The maximum economic development of this state, the attainment of the highest and best use of the waters of the natural lakes of the Middle Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7-1/2 theoretical horsepower, recreation, wildlife and fish life uses.

B. For the purpose of maintaining a minimum perennial streamflow sufficient to support aquatic life, no appropriations of water except for domestic or livestock uses shall be made or granted by any state agency or public corporation of the state for the waters of Lake Creek or its tributaries above the confluence of Lake Creek with the Metolius River for flows of Lake Creek below 30 cubic feet per second measured at the mouth of Lake Creek except that this limitation shall not apply to waters legally stored or legally released from storage (priority date - May 24, 1962).

C. Applications for the use of the waters of the Middle Deschutes River Basin shall not be accepted by any state agency for any other use and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.

D. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

E. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudical to the public interest unless planned, constructed, and

26. Maintenance of minimum perennial streamflows would be in the public interest.

27. Certain lakes are by nature of their physiography, location, land ownership, or economic potential available only for limited resource use.

28. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed, although information is available on flow requirements for aquatic life.

29. The maximum benefical use of the waters of the tributaries of the Deschutes River within the Lower Deschutes Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Lower Deschutes River Basin:

A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Lower Deschutes River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Lower Deschutes River Basin are hereby so classified with the following exceptions:

   1. The State Water Resources Board program, Lower Main Stem Deschutes River, adopted April 3, 1964, as modified by the Water Policy Review Board.

   2. The waters of Boulder Lake in Hood River and Wasco Counties are classified only for domestic and livestock uses; power development not to exceed 7-1/2 theoretical horsepower; recreation, wildlife and fish life uses; and irrigation not to exceed 100 acre-feet annually from water stored in the lake.

   3. The maximum economic development of this state, the attainment of the highest and best use of the waters of the other natural lakes of the Lower Deschutes River Basin, and the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7-1/2 theoretical horsepower, recreation, wildlife, and fish life uses and the waters of the natural lakes of the Lower Deschutes River Basin are hereby so classified.

B. For the purpose of maintaining a minimum perennial streamflow sufficient to support aquatic life, no appropriations of water except for domestic or livestock uses shall be made or granted by any state agency or public corporation of the state for the waters of the White River or its tributaries above the confluence of White River with the Deschutes River for flows of the White River below the specified flows in Table 2, except that this limitation shall not apply to waters legally stored or legally released from storage.

C. Applications for the use of the waters of the Lower Deschutes River Basin shall not be accepted by any state agency for any other use and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.

D. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

E. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give cognizance to the multiple-purpose concept.

DESCHUTES - UPPER CROOKED RIVER

WHEREAS the State Water Resources Board under the authority of ORS 536.300 has undertaken a study of the Deschutes - Upper Crooked River Basin as delineated on State Water Resources Board Map, File 5.7014;

WHEREAS in this study consideration was given to means and methods of augmenting, conserving and classifying such water resources, existing and contemplated needs and uses of water for domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses, and for pollution abatement as well as other related subjects including drainage, reclamation, and flood control; and

WHEREAS as a result of said study the following findings have been reached by this Board:

1. The total quantity of water is sufficient on an average-year basis to satisfy all existing rights to water in this basin.
2. There is not enough water on a critical-year basis to meet existing consumptive needs.

3. Maldistribution exists with regard to physical location and with respect to availability during time of need.

4. Simultaneous use of a major portion of existing consumptive rights results in flows at or near the zero level on many streams during the summer months.

5. Most streams do not provide enough flow for nonconsumptive public uses at present in periods of relatively low as well as critical flow.

6. The existence of ground water has been established in certain sections of the basin, but quantities have not been determined.

7. There is need to insure quantities of water for domestic, livestock, municipal and mining uses which, while small, are of benefit to the state.

8. There are no municipal water systems in the basin.

9. Irrigation is and will continue to be the major consumptive use of water.

10. Most irrigated lands in the basin do not receive an adequate supply of water.

11. Substantially more than the average annual yield of the Upper Crooked River Basin has been withdrawn by the State Engineer for irrigation purposes.

12. Power development appears to be economically and physically feasible.

13. There is limited potential for industrial use of water.

14. Water-based recreation will become a more significant use of water in this basin.

15. Water consumption by wildlife does not represent a significant quantity.

16. Game fish populations are limited because of extreme low flows, high water temperatures, and extensive populations of rough fish.

17. Pollution of surface and ground water is not a significant problem.

18. Drainage and reclamation of drained lands are not significant factors in present and contemplated water use.

19. Flood problems exist mainly on the mainstem of Crooked River.

20. There are physically feasible storage sites within the basin.

21. Small reservoirs on minor tributaries could reduce flash floods and streambank erosion and provide late-season irrigation water.

22. Utilization of flows to minimize pollution should not be permitted if such use limits or conflicts with the multiple-purpose concept.

23. Criteria for determination of desirable base flows commensurate with all beneficial uses of water have not been developed.

24. The maximum beneficial use of the waters of the Upper Crooked River Basin will be for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses.

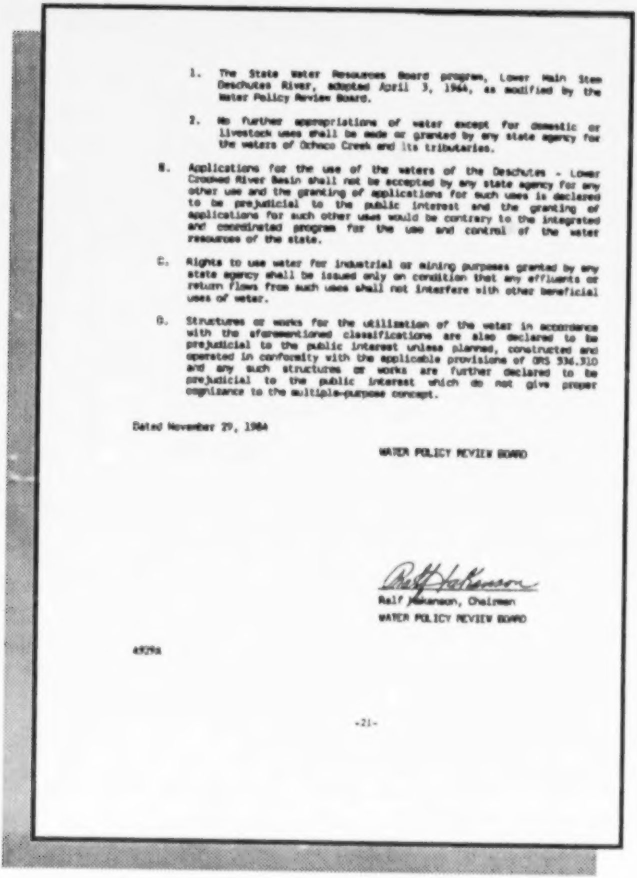
NOW THEREFORE BE IT RESOLVED that this Board hereby adopts the following program in accordance with the provisions of ORS 536.300(2) pertaining to the water resources of the Deschutes - Upper Crooked River Basin:

A. The maximum economic development of this state, the attainment of the highest and best use of the waters of the Deschutes - Upper Crooked River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses and the waters of the Deschutes - Upper Crooked River Basin are hereby so classified.

B. Applications for the use of the waters of the Deschutes - Upper Crooked River Basin shall not be accepted by any state agency for any other use and the granting of applications for such other uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.

C. Rights to use of water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

D. Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.



1. The State Water Resources Board program, Lower Main Stem Deschutes River, adopted April 3, 1964, as modified by the Water Policy Review Board.

2. No further appropriations of water except for domestic or livestock uses shall be made or granted by any state agency for the waters of Ochoco Creek and its tributaries.

B. Applications for the use of the waters of the Deschutes - Lower Crooked River Basin shall not be accepted by any state agency for any other use and the granting of applications for such uses is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated and coordinated program for the use and control of the water resources of the state.

C. Rights to use water for industrial or mining purposes granted by any state agency shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

D. Structures or works for the utilization of the water in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

Dated November 29, 1984

WATER POLICY REVIEW BOARD

Ralf Hakanson

Ralf Hakanson, Chairman
WATER POLICY REVIEW BOARD

4929A

ATTACHMENT B

STREAMS FORMING WATERFALLS NEAR THE COLUMBIA RIVER

The following streams and waters thereof forming waterfalls or cascades in view of, or near, the Columbia River Highway, from Sandy River to Hood River, the first 17 of which are in Multnomah County and the remainder of which are in Hood River County, are withdrawn from appropriation or condemnation, and shall not be diverted or interrupted for any purpose whatsoever, except as mentioned in ORS 538.210:

(1) Latourell Creek—forming Latourell Falls.

(2) An unnamed stream whose waterfall is approximately at the southwest quarter of the southeast quarter of the northwest quarter of section 28, township 1 north, range 5 east, at the northern edge of Tax Lot 27/28. The fall is on the south side of the old Columbia River Highway .7 mile west of the highway bridge at Young Creek.

(3) An unnamed stream whose waterfall is approximately at the southeast quarter of the southwest quarter of the northeast quarter of section 28, township 1 north, range 5 east, at the northern intersection of Tax Lot 27/28. The falls are on the south side of the old Columbia River Highway .4 mile west of the highway bridge at Young Creek.

(4) An unnamed stream whose waterfall is approximately at the northeast quarter of the northeast quarter of the northeast quarter of section 28, township 1 north, range 5 east, Tax Lot 3. The falls are on the south side of the old Columbia River Highway .1 mile west of the highway bridge at Young Creek.

(5) Young Creek—forming Shepperd Dell Falls.

(6) Bridal Veil Creek—forming Bridal Veil Falls.

(7) Coopey Falls Creek.

(8) Mist Falls Creek.

(9) Wahkeena Creek—forming Wahkeena Falls, formerly known as Gordon Falls.

(10) Multnomah Creek—forming Multnomah Falls.

(11) Oneonta Creek—forming Oneonta Falls and Gorge.

(12) Horse Tail Creek—forming Horse Tail Falls.

(13) Tumalt Creek.

(14) McCord Creek, formerly known as Kelly Creek—forming Elowah Falls.

(15) Moffett Creek—forming Wahe Falls.

(16) Tanner Creek—forming Wahclella Falls.

(17) Eagle Creek—forming Metlako Falls.

(18) Ruckel Creek, formerly known as Deadman's Creek.

(19) Herman Creek.

(20) Gorge Creek.

(21) Gorton Creek—forming Gorton Creek Falls.

(22) Harphan Creek.

(23) Summit Creek—forming Camp Benson Falls.

(24) Lindsey Creek—forming Lindsey Falls.

(25) Spring Creek, also known as Wonder Creek—forming Lancaster Falls.

(26) Warren Creek.

(27) Cabin Creek.

(28) Starvation Creek—forming Starvation Falls.

(29) Viento Creek.

(30) Perham Creek.

(31) Phelps Creek, except those creeks which are tributary to Phelps Creek and which arise in the north one-half of section 5, township 2 north, range 10 east of the Willamette Meridian, subject to prior rights. (Amended by 1953 c.45 §2; 1989 c.361 §1)

TABLE 3 CONTINUED
[illegible] STREAMFLOWS (Cubic Feet Per Second)

Priority Date

TABLE 2

MINIMUM PERENNIAL STREAMFLOW (Cubic Feet Per Second)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL 1-15/16-31	AUG	SEP 1-15/16-30	Priority Date
WILLAMETTE RIVER													
Willamette River above Willamette Falls at Oregon City													
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CLACKAMAS SUBBASIN													
[illegible] Creek above the mouth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] Creek above the mouth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Clackamas River above gage [illegible] at Big Bottom [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Collawash River above the mouth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
East Fork Collawash River above the mouth	-	-	-	-	-	-	-	-	-	-	[illegible]	[illegible]	[illegible]
Elk Lake Creek above the mouth	-	-	-	-	-	-	-	-	-	-	[illegible]	[illegible]	[illegible]
Eagle Creek above the mouth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
North Fork Eagle Creek above the mouth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Deep Creek above the mouth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

WASHINGTON
COLUMBIA RIVER
HOOD RIVER
WASCO
CASCADE

WATER RESOURCES DEPARTMENT

HOOD BASIN

MAP NO. 4.2

TABLE 2 CONTINUED

MINIMUM PERENNIAL STREAMFLOWS (Cubic Feet Per Second)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL 1-15/16-31	AUG	SEP	Priority Date
COLUMBIA SUBBASIN													
Milton Creek above the confluence of Salmon Creek (NE 1/4, Sec 35, T3N, R2W)													
	-	20	-	25	25	25	25	-	-	-	-	-	5-25-66
Cox Creek above the mouth													
	-	6	6	6	6	6	6	-	-	-	-	-	5-25-66
Salmon Creek above the mouth													
	-	5	5	5	5	5	5	-	-	-	-	-	5-25-66
North Scappoose Creek above the mouth													
	5	40	40	40	40	40	40	40	20	20/5	5	5	5-25-66
Alder Creek above the mouth													
	1	8	8	8	8	8	8	8	3	1	1	1	5-25-66
Cedar Creek above the mouth													
	1	6	6	6	6	6	6	6	3	1	1	1	5-25-66
Chapman Creek (Lizzie Creek) above the mouth													
	1	6	6	6	6	6	6	6	3	1	1	1	5-25-66
North Fork of North Scappoose Creek above the mouth													
	1	7	7	7	7	7	7	7	3	3/1	1	1	5-25-66
Sierkes Creek (Deep Creek) above the mouth													
	0.5	7	7	7	7	7	7	7	7/0.5	0.5	0.5	0.5	5-25-66
South Fork of North Scappoose Creek above the mouth													
	1	8	8	8	8	8	8	8	4	1	1	1	5-25-66
South Scappoose Creek above the confluence of Raymond Creek (SE 1/4, Sec 13, T3N, R2W)													
	5	25	25	25	25	25	25	25	12	5	5	5	5-25-66
Gourlay Creek above the mouth													
	0.5	10	10	10	10	10	10	10	2	2/0.5	0.5	0.5	5-25-66
Raymond Creek above the mouth													
	0.5	8	8	8	8	8	8	8	1	1/0.5	0.5	0.5	5-25-66

1984 population projections for those counties comprising the primary zone of influence of the forest. This rate of increase was then applied to RIM data for the general categories of wilderness, developed and dispersed recreational use.

While we recognize the problems in projecting recreational use, we do have concerns with the methods employed.

The center for Population Research and Census at Portland State University has recently recast population projections for Oregon. These new projections should be examined for effects on forest projections and adjustments made if necessary.

While the primary zone of influence is a major source of recreational use in the forest, certain areas, such a Timberline and the Columbia Gorge are national, if not international magnets for tourism.

Projected increases in visits to these areas should perhaps be based on historical trends in the forest.

Using the three general categories of wilderness, dispersed and develop, while useful for broad land based allocations, mask the dynamics of specific recreational activities. For example, riverboating, mountain bike riding, ORV use such as ATV's, cross-country skiing, snow mobiling and wildlife viewing are likely growing faster than the population. The plan should indicate how specific activity growth is to be monitored and what management strategies and options are to be employed to accommodate differential growth rates for specific activities.

Oregon State Parks in conjunction with Washington and Idaho has recently completed a recreational demand survey which will update and revise the 1977 River Basin data. Results from this survey should be available by late fall of 1988 and will be useful in formulating new recreation use projections.

Recreational Diversity

We are supportive of management producing a diversity of recreational opportunities as delineated by the Recreational

Opportunity Spectrum (ROS). Roaded natural and roaded modified opportunities are adequate through the 50 year planning horizon. The short fall in wilderness and non-wilderness semi-primitive non-motorized (SPNM) and motorized (SPM) is alarming. In all three categories of opportunity, current demand already exceeds supply. Proposed actions under the preferred alternative will undoubtedly worsen the situation substantially. At present, the forest has some 130,000 acres of roadless areas providing semi-primitive recreation opportunities. Under the preferred alternative acreage providing these alternatives will be reduced to under 35,000 acres. Only 17% of expected SPNM demand will be met; 3% of SPM demand will be met. The recreational diversity of the forest will be markedly reduced.

Reduction of these opportunities will likely have far reaching effects. Some recreationists may seek substitute areas on other forests; but equally extreme similar reductions on other Oregon forests will make such substitutions unavailable. Also, many recreationists from the Portland urban area will lack the time or financial resources to seek such opportunities elsewhere; they are and will be largely dependent on the Hood.

As demand for these opportunities increase, and as the supply over time decreases, remaining roadless areas and the wilderness areas will experience even greater increases in use. But use in both has already met or exceeded capacity. This risks overuse, degradation of the resource and the quality of the recreational experience and poses the undesirable specter of restricting use.

This poses a potential recreational crisis. The Mt. Hood along with the Willamette National Forest are the main providers of these recreational opportunities for the growing urban population of the Willamette Valley. As this population and accompanying urban pressures grow, the recreational value of these lands will become more crucial as "quality of life" issues.

The U.S. Forest Service is virtually the sole provider of these opportunities in a forested setting. Once developed for other uses, the semi-primitive character of these lands would be most difficult to re-establish; management options for the next generation will be severely reduced.

Dispersed Recreation

Dispersed recreational concerns were partially addressed in the section regarding recreational diversity. Beyond ROS categories, more specific concerns relate to management for specific areas and facilities, both roaded and unroaded.

Trails are an important element in dispersed recreation, whether they are major thoroughfares through semi-primitive areas or provide access to a back country lake or scenic viewpoint.

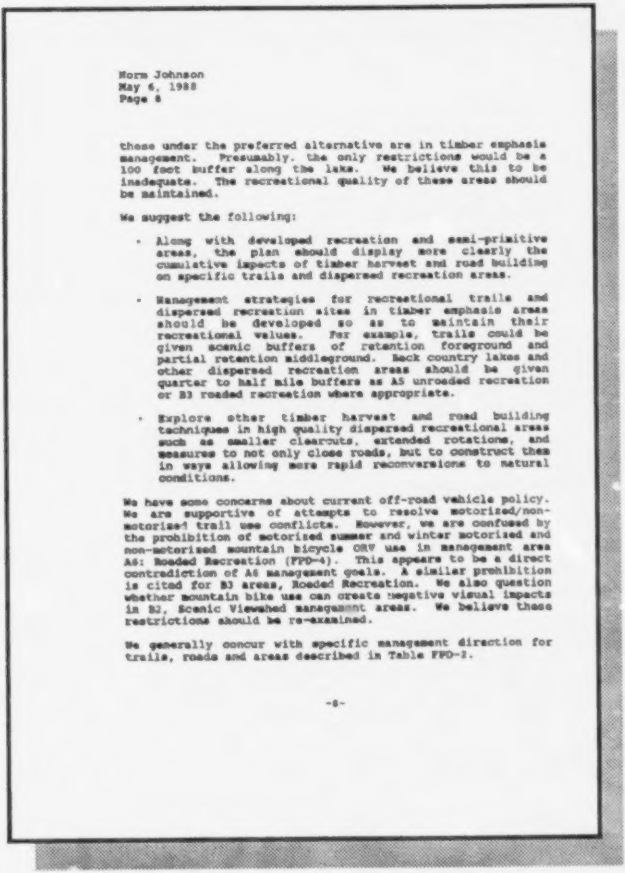
As with campsites, the 1983 SCORP cites a net need for trail miles in Multnomah, Clackamas and Hood River Counties. Aside from the new trails needed, we have concerns about the over 300 miles on the Mt. Hood National Forest described as inadequate due to not meeting current construction and maintenance standards. We support measures to bring these up to standard.

What is not indicated in the plan is how many trails will be lost to recreational use due to timber harvest and road building. While some mitigation may be possible, in many cased, the recreational characteristics of the land area for which the trails provide access, and of the trail itself, may be lost.

This is a problem similar to that posed for developed recreation sites. A number of recreational trails and related sites are located in C1 timber emphasis management areas. Once developed for timber, how will these be mitigated? What increased use will other trails and sites receive as recreationists seek substitutes? The plan should address these questions.

Prime examples of this problem are evidenced by a number of back country lakes which are popular recreation areas and important to dispersed recreation on the Mt. Hood. Some are roaded, others are accessible by trail. Many are at lower elevation and easily accessible to the urban weekend visitor in contrast to wilderness areas requiring more time and resources for use.

Such lakes are Elk, Round, Skookum, Sportsman, Surprise, Jump, Memaloose, Twin Lakes, Green, Boulder Lake and Bonney Meadow and Badger Lake (along with the access road). All of



these under the preferred alternative are in timber emphasis management. Presumably. the only restrictions would be a 100 foot buffer along the lake. We believe this to be inadequate. The recreational quality of these areas should be maintained.

We suggest the following:

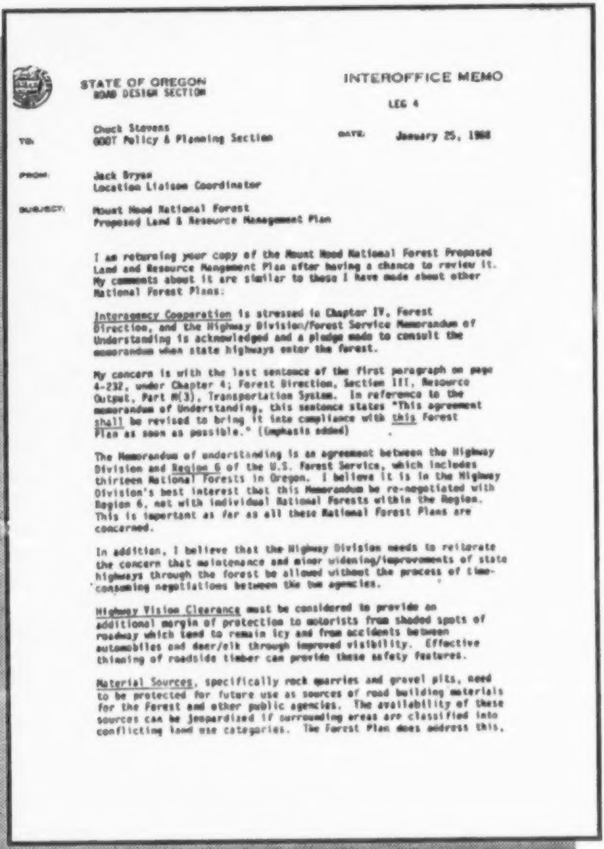
- Along with developed recreation and semi-primitive areas, the plan should display more clearly the cumulative impacts of timber harvest and road building on specific trails and dispersed recreation areas.

- Management strategies for recreational trails and dispersed recreation sites in timber emphasis areas should be developed so as to maintain their recreational values. For example, trails could be given scenic buffers of retention foreground and partial retention middleground. Back country lakes and other dispersed recreation areas should be given quarter to half mile buffers as A5 unroaded recreation or B3 roaded recreation where appropriate.

- Explore other timber harvest and road building techniques in high quality dispersed recreational areas such as smaller clearcuts, extended rotations, and measures to not only close roads, but to construct them in ways allowing more rapid reconversions to natural conditions.

We have some concerns about current off-road vehicle policy. We are supportive of attempts to resolve motorized/non-motorized trail use conflicts. However, we are confused by the prohibition of motorized summer and winter motorized and non-motorized mountain bicycle ORV use in management area A6: Roaded Recreation (FPD-4). This appears to be a direct contradiction of A6 management goals. A similar prohibition is cited for B3 areas, Roaded Recreation. We also question whether mountain bike use can create negative visual impacts in B2, Scenic Viewshed management areas. We believe these restrictions should be re-examined.

We generally concur with specific management direction for trails, roads and areas described in Table FPD-2.



STATE OF OREGON
ROAD DESIGN SECTION

INTEROFFICE MEMO

LEG 4

TO: Chuck Stevens
ODOT Policy & Planning Section

DATE: January 25, 1988

FROM: Jack Bryan
Location Liaison Coordinator

SUBJECT: Mount Hood National Forest
Proposed Land & Resource Management Plan

I am returning your copy of the Mount Hood National Forest Proposed Land and Resource Mangement Plan after having a chance to review it. My comments about it are similar to those I have made about other National Forest Plans:

Interagency Cooperation is stressed in Chapter IV, Forest Direction, and the Highway Division/Forest Service Memorandum of Understanding is acknowledged and a pledge made to consult the memorandum when state highways enter the forest.

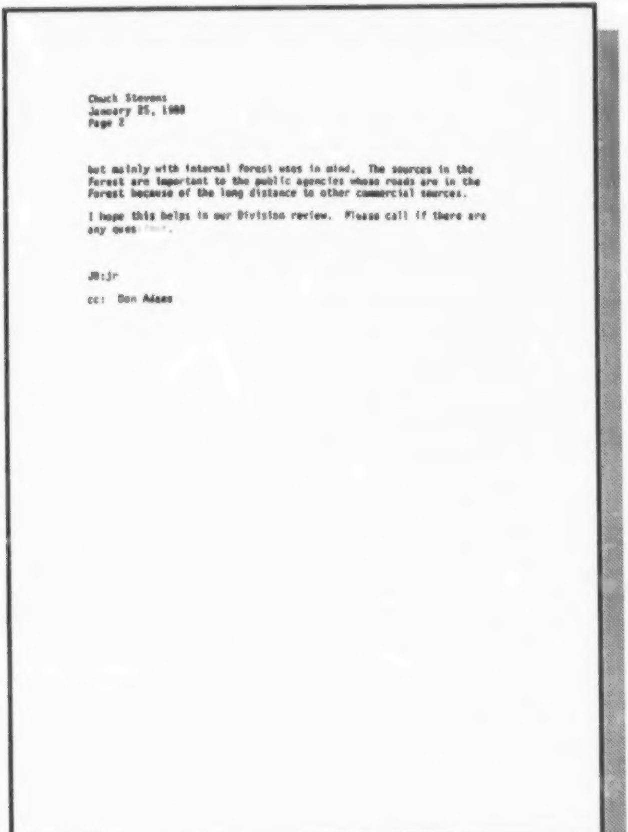
My concern is with the last sentence of the first paragraph on page 4-232, under Chapter 4; Forest Direction, Section III, Resource Output, Part M(3), Transportation System. In reference to the memorandum of Understanding, this sentence states "This agreement shall be revised to bring it into compliance with this Forest Plan as soon as possible." (Emphasis added)

The Memorandum of understanding is an agreement between the Highway Division and Region 6 of the U.S. Forest Service, which includes thirteen National Forests in Oregon. I believe it is in the Highway Division's best interest that this Memorandum be re-negotiated with Region 6, not with individual National Forests within the Region. This is important as far as all these National Forest Plans are concerned.

In addition, I believe that the Highway Division needs to reiterate the concern that maintenance and minor widening/improvements of state highways through the forest be allowed without the process of time-consuming negotiations between the two agencies.

Highway Vision Clearance must be considered to provide an additional margin of protection to motorists from shaded spots of roadway which tend to remain icy and from accidents between automobiles and deer/elk through improved visibility. Effective thinning of roadside timber can provide these safety features.

Material Sources, specifically rock quarries and gravel pits, need to be protected for future use as sources of road building materials for the Forest and other public agencies. The availability of these sources can be jeopardized if surrounding areas are classified into conflicting land use categories. The Forest Plan does address this.

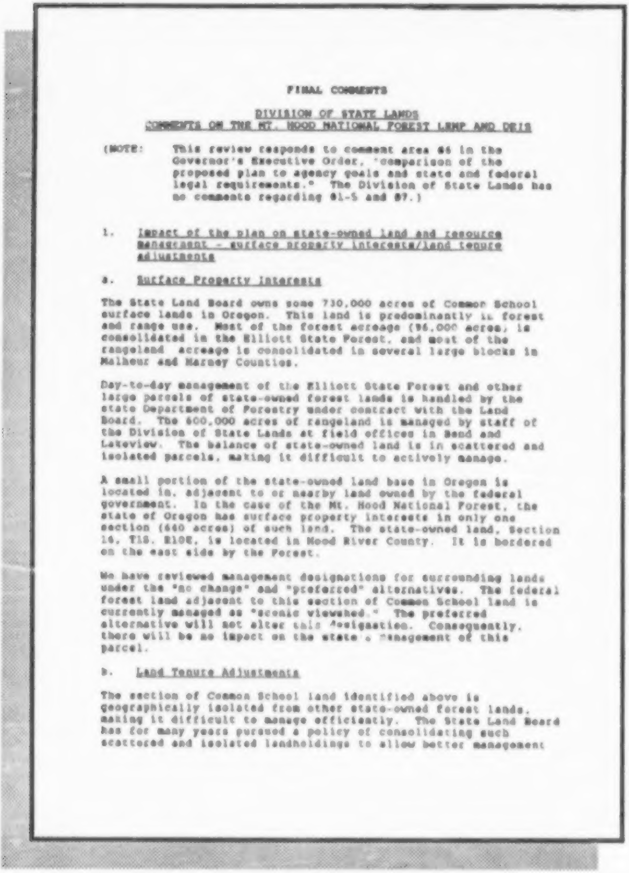


but mainly with internal forest uses in mind. The sources in the Forest are important to the public agencies whose roads are in the Forest because of the long distance to other commercial sources.

I hope this helps in our Division review. Please call if there are any questions.

JB:jr

cc: Don Adams



FINAL COMMENTS

DIVISION OF STATE LANDS
COMMENTS ON THE MT. HOOD NATIONAL FOREST LRMP AND DEIS

(NOTE: This review responds to comment area #6 in the Governor's Executive Order, "comparison of the proposed plan to agency goals and state and federal legal requirements." The Division of State Lands has no comments regarding #1-5 and #7.)

1. Impact of the plan on state-owned land and resource management - surface property interests/land tenure adjustments

a. Surface Property Interests

The State Land Board owns some 730,000 acres of Common School surface lands in Oregon. This land is predominantly in forest and range use. Most of the forest acreage (96,000 acres) is consolidated in the Elliott State Forest, and most of the rangeland acreage is consolidated in several large blocks in Malheur and Harney Counties.

Day-to-day management of the Elliott State Forest and other large parcels of state-owned forest lands is handled by the state Department of Forestry under contract with the Land Board. The 600,000 acres of rangeland is managed by staff of the Division of State Lands at field offices in Bend and Lakeview. The balance of state-owned land is in scattered and isolated parcels, making it difficult to actively manage.

A small portion of the state-owned land base in Oregon is located in, adjacent to or nearby land owned by the federal government. In the case of the Mt. Hood National Forest, the state of Oregon has surface property interests in only one section (640 acres) of such land. The state-owned land, Section 16, T1S, R10E, is located in Hood River County. It is bordered on the east side by the Forest.

We have reviewed management designations for surrounding lands under the "no change" and "preferred" alternatives. The federal forest land adjacent to this section of Common School land is currently managed as "scenic viewshed." The preferred alternative will not alter this designation. Consequently, there will be no impact on the state's management of this parcel.

b. Land Tenure Adjustments

The section of Common School land identified above is geographically isolated from other state-owned forest lands, making it difficult to manage efficiently. The State Land Board has for many years pursued a policy of consolidating such scattered and isolated landholdings to allow better management

2. Comparison of the proposed plan to state legal requirements Removal/Fill Law

The division administers the state of Oregon's Removal-Fill Law, which regulates the removing and filling of materials from and in the waters of the state. Filling or removal within the beds and banks of non-navigable waterways in forest lands for forest management practices in accordance with the Oregon Forest Practices Act is exempt from regulation under the Removal-Fill Law. However, removing and filling for activities not related to forest management practices in accordance with the Forest Practices Act, such as road or bridge construction, construction of in-stream structures to improve fish habitat, and mining, are subject to the requirements of the law.

We recommend that the following language be inserted in Chapter Four of the LRMP ("Forest-Wide Standards and Guidelines") to clarify the division's role in protecting the waters of the State of Oregon:

Under the section on "Water," on p. 4-20 of the LRMP, insert the following new language under "2. Resource Improvement and Maintenance":

3. Activities not related to forest management practices which involve removing or filling of materials from streams in the Mt. Hood National Forest must meet the aquatic resource protection standards of ORS 541.605-541.695.

Department of Transportation
PARKS AND RECREATION DIVISION
525 TRADE STREET SE, SALEM, OREGON 97310

DATE: May 6, 1988

TO: Norm Johnson
Federal Planning Coordinator

FROM: Don Eixenberger DE
Research Analyst

SUBJECT: Review of the Mt. Hood National Forest Plan

The U.S. Forest Service (U.S.F.S.) plays a major role in the provision of recreation in the State of Oregon. It is an indispensable element in maintaining a diverse quality of recreational opportunity which will gain even greater importance as the state's population grows and as out-of-state tourism plays an even more crucial role in the state's economy. For example, federally administered lands provide over 30 percent of the state's campsites and picnic tables, 50 percent of its hiking and bridle trails and 60 percent of its ORV areas. Thus, while the plans assume that the U.S.F.S. provides 7.5 percent of outdoor recreation nationally, in Oregon, it is likely to be 3 to 4 times that amount if not more.

The U.S.F.S. is also the near sole provider of certain types of outdoor recreation in the state. Much river recreation and most snow activities and primitive and semi-primitive recreational opportunity are dependent on public lands managed by the U.S.F.S. Yet while demand for outdoor recreation opportunity of all types continues to grow, in many cases, the resources to provide those opportunities are shrinking. The Mt. Hood is especially important. Along with the Willamette National Forest, it is literally the backyard of the growing urban populations of the Willamette Valley. Its nearness to these populations provide an irreplaceable richness of recreational opportunity accessible to all elements of the population regardless of economic circumstances. That very nearness also insures a source of recreational opportunity against future vacillations in fuel supply. The variety of its opportunities provides a reservoir of recreational resources for the future as valley populations continue their growth.

General Comment

There are two general issues which emerge from the Mt. Hood Forest Plan that give cause for concern. They are the:

1. Economic valuation of recreation.
2. Projections of recreational demand.

Economic Valuation of Recreation

The economic values of recreational activities have been discontinued by 37 percent. In addition, recreational values have been assigned by a 0 percent per year real price trend throughout the life of the plan while a one percent per year real price trend for timber was used for harvest scheduling analyses.

We believe these adjustments to be unsupported and result in a serious undervaluation of the contribution recreation makes to Present Net Value (PNV).

These discounted values could have especially significant effects when specific areas of the forest are considered. PNV for recreation is presented forest wide, yet recreation is often feasible and/or concentrated in a specific area (e.g., an accessible roadless area, a river corridor). If an appropriate presentation of the economic benefits of recreation vis-a-vis other resource values is to be made, site or area specific analyses should be made. Otherwise, there is a risk of trading of high recreation values for potentially marginal timber values.

Economic benefit analyses should be recast with recreational values appropriate to the Mt. Hood Forest. They should also be formulated for specific areas of recreational use especially where recreation and timber allocations may be in conflict.

Recreational Demand

Presentation of methodologies to estimate future recreational demand are not apparent in the plan. In the final, these should be fully presented. Discussions with forest personnel indicate that projections were based on

Given the scope and depth of this issue, we suggest the following:

1. Develop a Region 6 wide plan describing potential cumulative impacts of forest planning on recreational diversity and prescribing how future demand, defined in terms of the ROS, will be met.

2. Schedule road building and harvesting in the Mt. Hood National Forest in ways allowing future options to meet the goal of such a plan.

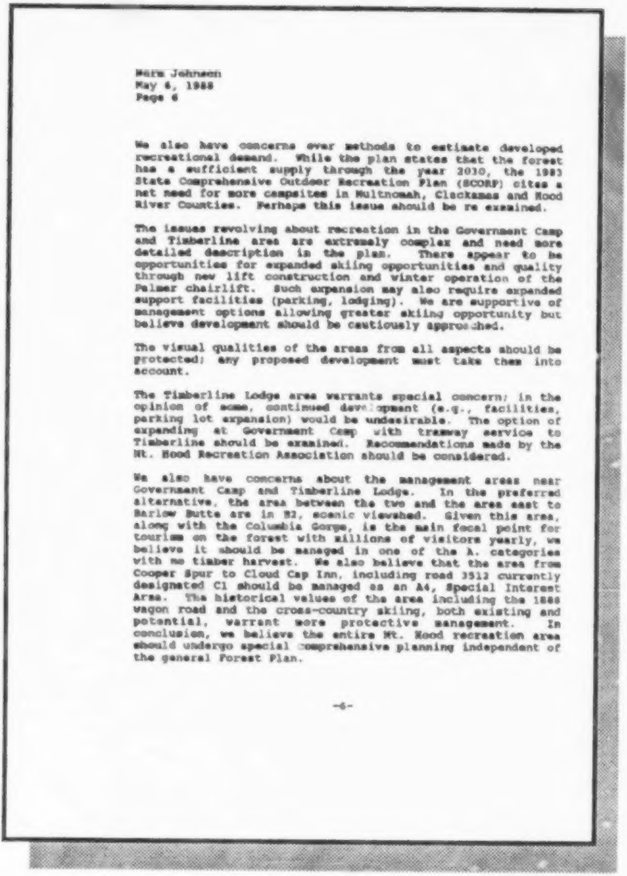
3. Manage [illegible] roadless area on the forest to preserve their semi-primitive recreational characteristics.

In terms of the latter, we believe all existing roadless areas should be managed for semi-primitive recreational opportunities. According to the plan, this would mean a potential reduction in timber harvest of about 8 million cubic feet per year. We are especially supportive of managing for semi-primitive recreation opportunities in the following areas: Eagle, Larch, Mt. Hood, Roaring River, Salmon Huckleberry and the Bagby and Collowash portions of the Bull of the Woods (as described in alternative A).

Developed Recreation Sites

Management of developed recreation sites do not vary by alternative; supply is considered to be adequate to meet demand through the year 2030. As the plan indicates, due to past budgetary limitations facilities have been provided at less than standard level of service.

We are fully supportive of the plan's intent to rehabilitate facilities to standard levels of service. However, we are very concerned about the impact timber harvest activities will have on developed sites on the forest. For example, many campgrounds are in C1 timber emphasis management areas. As harvesting takes place near these sites, the recreational values may decrease to the point where recreational use may be displaced. Recreationists may seek substitutes on the forest creating potential over crowding at those sites (this issues is discussed in more detail in the section on dispersed recreation). The plan should present an analysis of these possible impacts.



We also have concerns over methods to estimate developed recreational demand. While the plan states that the forest has a sufficient supply through the year 2030, the 1983 State Comprehensive Outdoor Recreation Plan (SCORP) cites a net need for more campsites in Multnomah, Clackamas and Hood River Counties. Perhaps this issue should be re examined.

The issues revolving about recreation in the Government Camp and Timberline area are extremely complex and need more detailed description in the plan. There appear to be opportunities for expanded skiing opportunities and quality through new lift construction and winter operation of the Palmer chairlift. Such expansion may also require expanded support facilities (parking, lodging). We are supportive of management options allowing greater skiing opportunity but believe development should be cautiously approached.

The visual qualities of the areas from all aspects should be protected; any proposed development must take them into account.

The Timberline Lodge area warrants special concern; in the opinion of some, continued development (e.g., facilities, parking lot expansion) would be undesirable. The option of expanding at Government Camp with tramway service to Timberline should be examined. Recommendations made by the Mt. Hood Recreation Association should be considered.

We also have concerns about the management areas near Government Camp and Timberline Lodge. In the preferred alternative, the area between the two and the area east to Barlow Butte are in B2, scenic viewshed. Given this area, along with the Columbia Gorge, is the main focal point for tourism on the forest with millions of visitors yearly, we believe it should be managed in one of the A. categories with no timber harvest. We also believe that the area from Cooper Spur to Cloud Cap Inn, including road 3512 currently designated C1 should be managed as an A4, Special Interest Area. The historical values of the area including the 1888 wagon road and the cross-country skiing, both existing and potential, warrant more protective management. In conclusion, we believe the entire Mt. Hood recreation area should undergo special comprehensive planning independent of the general Forest Plan.

Scenic Rivers

The Clackamas, Roaring, Salmon and White Rivers have been found to be eligible for designation under the Federal Wild and Scenic Rivers System. All are included in Senator Hatfield's Omnibus Scenic Rivers Bill. We support consideration of designation for these rivers. However, the White River is not recommended in the preferred alternative J. We believe it should be recommended along with the other three rivers in the preferred alternative.

In addition, the South and North Fork of the Clackamas are proposed for designation under the Oregon Rivers Initiative. The North Fork of the Clackamas was found to have "outstanding" recreational fishing values in "The Recreational Values on Oregon Rivers."[*] We believe both these rivers should be examined for possible eligibility.

In the same study, a number of other rivers were found to have "outstanding" recreational values. These include Eagle Creek, Oak Grove Fork, Collowash, Fish Creek, The Hood (and its forks), the Zig Zag and the Sandy. We believe these rivers should be examined for eligibility.

In the interim, we believe these rivers should be managed so as to maintain their eligibility characteristics.

Scenic Viewshed

We are supportive of the highest quality viewshed management in the Columbia Gorge, the Mt. Hood Recreation Area, along highways, recreational roads, the Pacific Crest Trail and other forest recreation trails, and for recreational areas and sites in the forest.

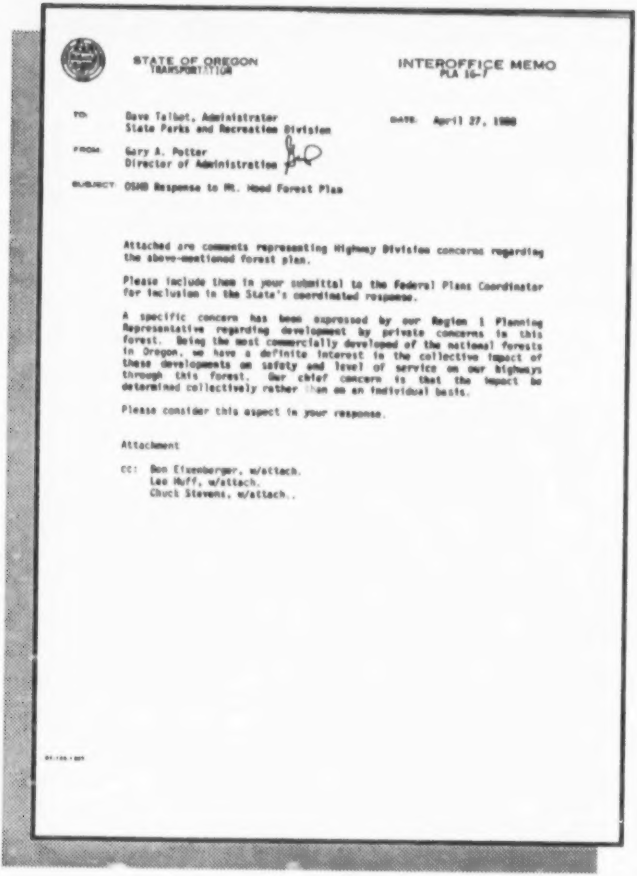
We are highly concerned about projected declines in visual quality of several major viewsheds under the preferred alternative. Tilly Jane is slated to go from "slightly altered" to "moderately altered;" Barlow Creek and Upper Salmon would experience similar reductions. Skyline Road would decline from "slightly altered" to "heavily altered."

---

[*] "Recreational Values on Oregon Rivers." Oregon State Parks and Recreation, April, 1986.

Mill Creek. Alder Creek and Highway 216 would also decline in visual quality. Badger Lake Road would go from "natural appearing" to "slightly altered." We believe visual management of these viewshed should be reconsidered and existing visual qualities be maintained.

DE:lr
NTHOOD.NMG



STATE OF OREGON
TRANSPORTATION

INTEROFFICE MEMO
PLA 16-7

TO: Dave Talbot, Administrator
State Parks and Recreation Division

DATE: April 27, 1988

FROM: Gary A. Potter
Director of Administration

SUBJECT: OSHD Response to Mt. Hood Forest Plan

Attached are comments representing Highway Division concerns regarding the above-mentioned forest plan.

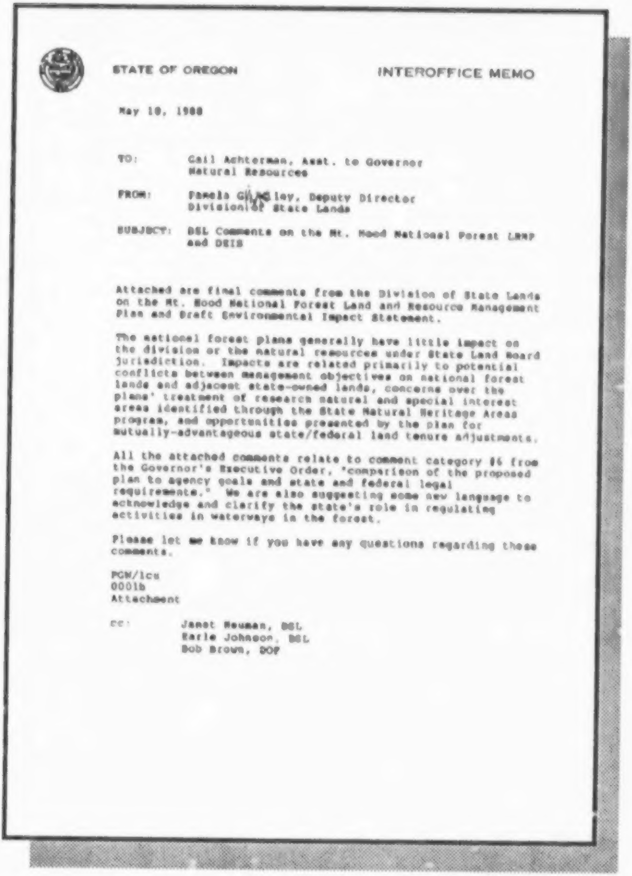
Please include them in your submittal to the Federal Plans Coordinator for inclusion in the State's coordinated response.

A specific concern has been expressed by our Region 1 Planning Representative regarding development by private concerns in this forest. Being the most commercially developed of the national forests in Oregon, we have a definite interest in the collective impact of these developments on safety and level of service on our highways through this forest. Our chief concern is that the impact be determined collectively rather than on an individual basis.

Please consider this aspect in your response.

Attachment

cc: Don Eixenberger, w/attach.
Lee Huff, w/attach.
Chuck Stevens, w/attach..



STATE OF OREGON

INTEROFFICE MEMO

May 10, 1988

TO: Gail Achterman, Asst. to Governor
Natural Resources

FROM: Pamela G[illegible]ley, Deputy Director
Division of State Lands

SUBJECT: DSL Comments on the Mt. Hood National Forest LRMP and DEIS

Attached are final comments from the Division of State Lands on the Mt. Hood National Forest Land and Resource Management Plan and Draft Environmental Impact Statement.

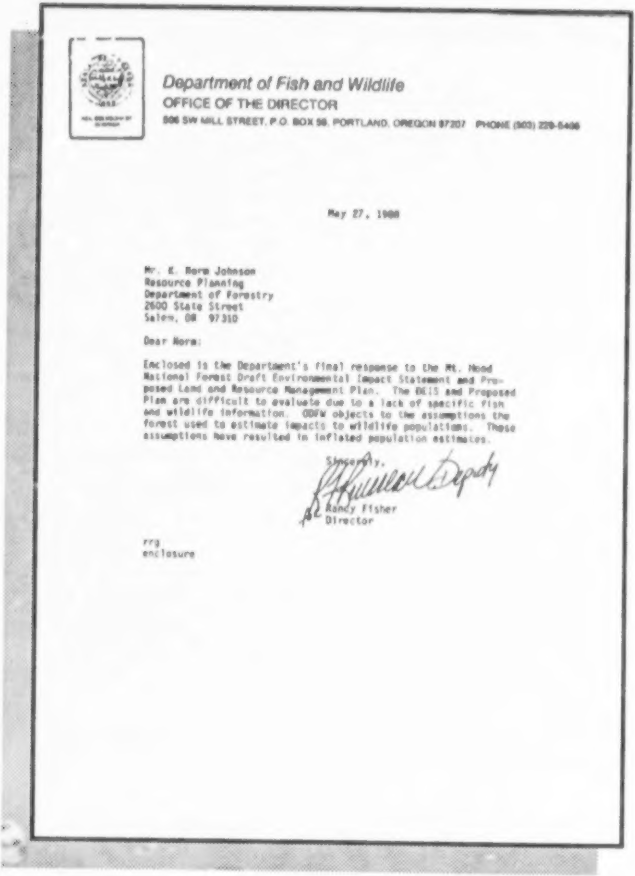
The national forest plans generally have little impact on the division or the natural resources under State Land Board jurisdiction. Impacts are related primarily to potential conflicts between management objectives on national forest lands and adjacent state-owned lands, concerns over the plans' treatment of research natural and special interest areas identified through the State Natural Heritage Areas program, and opportunities presented by the plan for mutually-advantageous state/federal land tenure adjustments.

All the attached comments relate to comment category #6 from the Governor's Executive Order, "comparison of the proposed plan to agency goals and state and federal legal requirements." We are also suggesting some new language to acknowledge and clarify the state's role in regulating activities in waterways in the forest.

Please let me know if you have any questions regarding these comments.

PGM/lcs
0001b
Attachment

cc: Janet Neuman, DSL
Earle Johnson, DSL
Bob Brown, DOF



Department of Fish and Wildlife
OFFICE OF THE DIRECTOR
506 SW MILL STREET, P.O. BOX 59, PORTLAND, OREGON 97207 PHONE (503) 229-5406

May 27, 1988

Mr. E. Norm Johnson
Resource Planning
Department of Forestry
2600 State Street
Salem, OR 97310

Dear Norm:

Enclosed is the Department's final response to the Mt. Hood National Forest Draft Environmental Impact Statement and Proposed Land and Resource Management Plan. The DEIS and Proposed Plan are difficult to evaluate due to a lack of specific fish and wildlife information. ODFW objects to the assumptions the forest used to estimate impacts to wildlife populations. These assumptions have resulted in inflated population estimates.

Sincerely,

Deputy

Randy Fisher
Director

rrg
enclosure

Fish and Wildlife Habitat Protection Criteria
for
Forest Lands

March, 1985

Reformatted and Revised September 1986

Environmental Management Section
Oregon Department of Fish and Wildlife
506 S.W. Mill Street, P.O. Box 3503, Portland, Oregon 97208

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GENERAL COMMENTS

The Oregon Department of Fish and Wildlife (ODFW) congratulates the Mt. Hood National Forest (Forest) on the completion of its Draft Environmental Impact Statement (DEIS) and Proposed Land and Resource Management Plan.

ODFW comments and recommendations are intended to be constructive and lead to positive results. They are based on ODFW understanding of the National Forest Management Act (NFMA), the clean Water Act, Executive Order 11990, and key provisions of the Wildlife Policy of the State of Oregon.

In March of 1986, ODFW presented the Forest with fish and wildlife habitat protection criteria for use in planning. The criteria set minimum standards felt necessary to meet the State of Oregon Wildlife Policy (Oregon Revised Statue [ORS] 496.012). The focus of ODFW recommendations is on implementing actions to meet those habitat protection criteria.

ODFW generally objects to departure alternatives because forest wildlife resources would be rapidly diminished by accelerated modification or loss of habitat. Departure timber harvesting risks the evenflow of recreational and commercial opportunities associated with fish and wildlife.

ODFW objects to management that creates an extensive area of even-aged stands across the Forest. Under even-aged timber management, structural and vegetation diversity would be greatly simplified and it may be difficult to maintain the desired amounts of dead and down woody habitats. A mix of even-aged and uneven-aged timber management across the Forest would provide diversity necessary for the variety of wildlife inhabiting the Forest. The Forest is urged to mix harvest prescriptions among adjoining units and emphasize uneven-aged management in all timber types.

Intensive harvest in Linny, String, Draw, and Mud Creeks (Salmon River) would increase the risk of catastrophic flood from rain-on-snow events. Past floods have already resulted in high bedload movement and a loss of quality spring chinook and steelhead spawning areas and success. Alternative F provides better protection with B-2 and A-5-6 designations for those areas.

ODFW supports the A9 and B6 allocations as displayed in Alternative F. These allocations would better meet the protection needs of riparian-dependent resources.

ODFW recommends the following land allocations to better protect aquatic and riparian resources:

A-9 - Clear Branch Creek and Pinnacle Creek of the Hood River system to protect bull trout populations.

Jordan Creek, Little Badger Creek, and Threemile Creek of the White River system to protect habitat for a genetically unique rainbow trout. This trout has been identified by researchers from Oregon State University as one of a kind. Until more is known about this unique trout, its habitat should be afforded full protection.

B-6 - Still Creek
- Fifteenmile Creek
- Upper Mill Creek
- Rock Creek
- Maryanne Spring area
- Nohorn Creek
- Hugh Creek
- Lilly Pad Lake area
- Wash Creek/Surprise Lake
- South Fork Eagle Creek
- Little Clear Creek
- Big Bottom area
- Fawn Creek
- Rhododendron Creek
- Tumble Creek
- Love Creek
- Pinhead Creek
- Camp Creek
- Clear Creek
- Frog Creek
- Boulder Creek
- Barlow Creek
- Tygh Creek
- Badger Creek
- East Fork Hood River
- West Fork Hood River
- Lake Branch Creek
- Ramsey Creek
- Eightmile Creek
- Fivemile Creek

B-9 - Fish Creek
- Memaloose Creek
- North Fork Clackamas River
- Shellrock Creek
- Sandstone Creek

Management Area designation as proposed in Alternative F for:
- Linny Creek
- String Creek
- Draw Creek
- Mud Creek

2. Big Game Habitat

The following recommendations are designed to meet ODFW benchmarks for deer and elk, and would require additions to and modification of the proposed standards and guidelines for Category C and several Category B lands. The deer and elk benchmarks can be met through increased production and distribution of quality forage and cover. In addition, the Forest needs to develop a winter range management area with a specific prescription.

ODFW's deer and elk population planning benchmarks for the Forest amount to 2,450 wintering elk and 13,410 wintering deer (20 June 1980 report to Rod Canutt, Region Six). In 1987, elk and deer were at 48 and 64 percent of the benchmark, respectively. When wintering herds are at the benchmark level, adult elk and deer numbers allocated to Forest summer ranges amount to 3,300 elk and 19,300 deer. The DEIS and Plan need to acknowledge ODFW planning benchmarks and provide an alternative that assures maintenance of those levels without diminishing hunting opportunities.

The Forest has not adequately addressed winter range areas. The 1980 report to Region Six also provided ODFW's definition of west slope Cascades winter range upon a request for specific planning information:

> "All slopes below 3,500 feet within a 180° aspect between N.W.-S.E. true bearing" and "other specific wintering locations that could be outlined."

ODFW has also provided the Forest with maps and the definition of eastside winter range as follows: all south-facing slopes below 3,600 feet elevation and all other slopes below 2,600 feet elevation. ODFW recommends the Forest use the above definitions to identify winter range capability areas on all maps.

ODFW's database indicates the Forest contains over 278,000 acres of winter range capability area. The Forest has acknowledged only 15,000 acres of winter range in the pine/oak type. The Forest needs to map its total winter range habitat capability area according to the definitions provided above. The Forest should adopt a winter range management area and implement standards for cover, forage, and roading, where fifty percent of winter range is in well-distributed thermal cover, of which at least 25 percent (12 percent of all lands) is in optimal thermal cover.

ODFW criteria for western Oregon requires maintenance of a one-quarter mile wide belt in optimum thermal cover along each side of major drainage corridors on winter ranges. No more than ten percent of the belt should be in small (ten acre), well-distributed forage areas.

The desired level of big game forage production is based on the quality of the forage, the length of time sites produce forage, and the distribution of forage sites. Forage quality is determined by the species seeded and the application of appropriate fertilizers. Permanent forage sites should be established at a rate of 100 acres per year over the planning period. These permanent sites should be evaluated for effectiveness at the end of the planning period. The number of trees planted on clearcuts

Pileated Woodpecker

Based on recent work by Mellen (1987, M.S. Thesis, OSU) and Brown (1985), ODFW recommends changing the guidelines to provide at least 500 acres of mature and old-growth forest habitat for nesting and roosting habitat. Habitat blocks should be contiguous. Potential nest trees should average 28 inches dbh. Forage habitat should also be increased to at least 500 acres, with two snags (17 inch or larger dbh) per acre to meet minimum needs of other primary cavity excavators. Additional comments are provided under Standards and Guidelines.

Pine Marten

Pine Marten populations will suffer if habitat areas are isolated from one another by extensive stands of unsuitable habitat. ODFW recommends maintaining forested corridors and streamside buffers with high levels of down logs as travelways throughout higher elevation forests where logging will occur. (See comments for high elevation forests).

Other

ODFW recommends the Forest adopt MIS for riparian zones, deciduous forest plant communities, aquatic habitats; and the wild turkey for the pine/oak habitats. ODFW will assist in choosing an indicator species for these habitats and in the development of management criteria for all of the indicator species.

4. Access and Travel Management

The Forest is required (FSM 4/87 R-6 Supp. 40 2635.02) to develop a comprehensive road management plan that includes fish and wildlife objectives, and coordination with ODFW. Through this process ODFW will provide specific input for desired open road densities on the Forest. The Forest must use federal authorizations to address vehicle use restrictions of roads and areas in the Land and Resource Management Plan (FSM 7110, FSM 2355.1).

Seasonal management of motorized travel is needed to assure habitat effectiveness on summer range and protection on winter range, to protect special habitats (e.g. calving meadows), and to improve buck and bull escapement. During statewide elk management workshops in 1984, Oregon big game hunters identified forest roading as their foremost concern and favored increased road closures to resolve roading impacts. The Forest does not address this issue. The Forest needs to fully discuss the effects of open roads and open road density on big game. The Forest has approximately 365 miles of arterial, 1,184 miles of collector, and 2,126 miles of local roads - with plans to build an additional 800 miles of roads over the next 20 years. Because each mile of open road reduces habitat effectiveness, ODFW's focus is on management of local roads and some collector roads.

ODFW recommends no more than 1.5 miles of open road per square mile of developed area; this level of open road density would reduce elk habitat effectiveness by fifty percent. The Forest must find a way to effectively bar motorized traffic on closed roads during the seasons when elk would be present.

Road density that would normally meet HE is excessive for purposes of bull and buck escapement on lands with less than 70 percent cover. One and one-half miles of open road per square mile is also excessive for the hunting experience desired by many, which explains why travel management areas (area closures) for hunting season generally have considerable hunter support. The primitive and semi-primitive opportunities now available on the Forest are not well distributed. The Forest needs to implement mitigative measures on much of the roaded Forest to provide more well-distributed semi-primitive non-motorized opportunities during hunting seasons.

Nonessential roads on winter range should not be open to motorized travel from December 1 to March 31 each year. Any areas where ORV activity conflicts with wintering big game would also require an area closure.

ODFW recommends closure to public vehicle use for all new road systems developed in the now existing roadless areas. This direction would help meet habitat objectives for big game and would not allow a use pattern to develop.

In summary, the Forest's comprehensive road management plan should implement the following:

1. Establish an average open road density not to exceed 1.5 miles per square mile of developed area;
2. Eliminate all motorized travel for specific area closures;
3. Establish special seasonal closures on big game winter range areas;
4. Screen forage areas from roadsides;
5. Emphasize year-round closures; and
6. Agree (ODFW and Forest) on a definition of "closed road."

ODFW recommends the Forest summarize the road management plan and include large scale maps in the final environmental impact statement.

5. Roadless Areas

ODFW recommends the following management area allocations for the Forest's roadless areas.

Badger Creek	Unroaded-timber harvest allowed
Bull of the Woods	As displayed in Alt. H
Eagle	As proposed in Alt. E and G
Larch	As displayed in Alt. M
Mt. Hood Additions	As displayed in Alt. F
Olallie/Mt. Jefferson	As proposed in Alt. E and G
Roaring River	As displayed in Alt. F

ODFW is not aware of any coordinated monitoring of snag habitat on the Forest. Observations by ODFW biologists indicate an insufficient number and variety of snags has been retained on past logging sites to maintain even minimum viable populations of cavity nesting species on managed forest areas. These inadequate snag management efforts of the past must be rectified through this current planning process.

It is essential that hard snags of varying diameters and heights be provided to maintain populations of all species of cavity nesters. The Forest needs to determine how many live replacement trees should be designated for future snag management. Public education and enforcement against unlawful wood cutting and other destruction of wildlife trees should be a part of the snag management program. The Forest needs to display the methods that would be used to protect these habitats from management activities. The Forest should adopt the "Animal Inn" Program.

Management of primary cavity excavators at the 20-40 percent potential population level assumes that these animals can be concentrated in a lesser number of snags. This assumption does not adequately address the ecology of these species. The behavioral and territorial requirements of some animals would preclude occupancy of snags by others; therefore, ODFW recommends the Forest leave more wood in project areas. An increased amount of wood residue would increase habitats for nongame species and provide for increased nutrient recycling. Traditional practices, such as yarding unutilizable woody material, often leaves too little woody material on the site for nongame species. Guidelines for leaving more wood in project areas should follow Brown (1985).

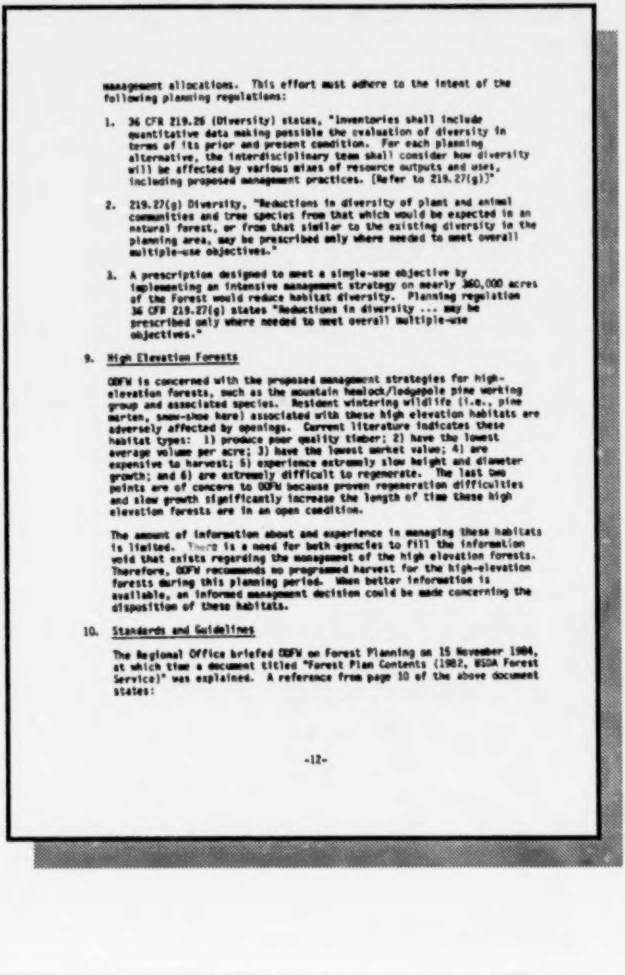
8. Habitat Diversity

ODFW is concerned with the impact of the General Forest (C1) land allocation on the diversity of plant and animal species. Seral stage IV approximates the rotation of the C1 prescription, and provides the least plant and animal diversity of the six stand conditions. With a typical 100 year rotation, 50 to 70 percent of the managed acres would be in seral state IV, and the remainder of the managed acres would be in lower successional stages.

The adverse impact of seral stage IV on plant and animal diversity is a direct result of a closed crown cover condition. The closed crown cover greatly reduces the amount of sunlight reaching the forest floor; this, in turn, reduces the production of understory vegetation.

Another impact of intensive timber management on plant and animal diversity is the reduced amount of time that regeneration units stay in the lower stand condition classes. Intensive management practices, such as vegetation control, decrease the duration of grass/forb and shrub stand conditions by one-half.

ODFW recommends the Forest: (1) evaluate habitat diversity and the consequences of the proposed alternatives and management strategies on that diversity, (2) redesign the C1 prescription to meet a much higher level of plant and animal diversity than currently proposed and, (3) provide a detailed map for the preferred alternative showing all



management allocations. This effort must adhere to the intent of the following planning regulations:

1. 36 CFR 219.26 (Diversity) states, "Inventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition. For each planning alternative, the interdisciplinary team shall consider how diversity will be affected by various mixes of resource outputs and uses, including proposed management practices. [Refer to 219.27(g)]"

2. 219.27(g) Diversity, "Reductions in diversity of plant and animal communities and tree species from that which would be expected in an natural forest, or from that similar to the existing diversity in the planning area, may be prescribed only where needed to meet overall multiple-use objectives."

3. A prescription designed to meet a single-use objective by implementing an intensive management strategy on nearly 360,000 acres of the Forest would reduce habitat diversity. Planning regulation 36 CFR 219.27(g) states "Reductions in diversity ... may be prescribed only where needed to meet overall multiple-use objectives."

9. High Elevation Forests

ODFW is concerned with the proposed management strategies for high-elevation forests, such as the mountain hemlock/lodgepole pine working group and associated species. Resident wintering wildlife (i.e., pine marten, snow-shoe hare) associated with these high elevation habitats are adversely affected by openings. Current literature indicates these habitat types: 1) produce poor quality timber; 2) have the lowest average volume per acre; 3) have the lowest market value; 4) are expensive to harvest; 5) experience extremely slow height and diameter growth; and 6) are extremely difficult to regenerate. The last two points are of concern to ODFW because proven regeneration difficulties and slow growth significantly increase the length of time these high elevation forests are in an open condition.

The amount of information about and experience in managing these habitats is limited. There is a need for both agencies to fill the information void that exists regarding the management of the high elevation forests. Therefore, ODFW recommends no programmed harvest for the high-elevation forests during this planning period. When better information is available, an informed management decision could be made concerning the disposition of these habitats.

10. Standards and Guidelines

The Regional Office briefed ODFW on Forest Planning on 15 November 1984, at which time a document titled "Forest Plan Contents (1982, USDA Forest Service)" was explained. A reference from page 10 of the above document states:

	3. Riparian habitats are managed to maintain or improve water quality and fish and wild life habitat values. 4. Restoration of degraded riparian habitat to at least 80 percent of potential is planned. 5. The habitat restoration target to be achieved within the life of the plan (10 years) is included. (8). 6. Habitat monitoring system is assured.
Meadows, Freshwater Wetlands, Natural Openings	1. Integrity and effectiveness of the habitat for wildlife use is maintained. 2. Ninety percent of the peripheral vegetation is maintained one sight distance wide. 3. Two-thirds of the cover outside the periphery must remain at all times in natural condition. 4. Livestock grazing, logging practices, recreational use (horses, ORV's, etc.) and other activities are managed to protect the natural conditions of these habitats. 5. The current acreage in each of these habitat types is preserved. Protective measures will be based on published guidelines and considerations. (Brown 1985; Thomas 1979; (3), (a), (b), (c); (8)).
Cliffs, Rimrock, Caves, and Talus	1. Management considerations in published guidelines are used to achieve maximum protection of these habitats. Conflicting uses and activities include: (a) physical alteration (b) road construction and location (c) quarries (d) clearing of adjacent cover (e) recreational activities and other human disturbances. (Brown 1985; Thomas 1979).
Aquatic Habitats	1. Maintenance, enhancement, and restoration of aquatic ecosystems to meet Oregon Department of Fish and Wildlife objectives is described.

	2. Changes expected by decade using FHI (Fish Habitat Index) or other accepted models are displayed.
	3. The baseline for changes should be the current management level or condition.
	4. A monitoring plan is assured.
stream Habitat	1. In-stream integrity is maintained, enhanced or restored to acceptable levels, including flow, channel stability, cover, substrate quality and fish passage opportunity.
ter Quality	1. Water quality parameters (especially temperature and suspended sediments) are maintained or restored to acceptable levels.
	2. Monitoring procedures are assured.
ter Quantity	1. No less than the minimum existing streamflow[3] and seasonal patterns are maintained.
	2. Monitoring is assured.

k and Deer Habitat

Eastern Oregon

Habitat conditions for Rocky Mountain elk and mule deer (includes white-tailed deer) based on published guidelines are provided which will sustain no less than ODFW management objectives (based on conditions in 1977-1980). The objectives identify, by wildlife unit, the size of the overwinter population and the ratio of males per 100 females. An optimum habitat condition is required to meet the recruitment goals based on reproductive performance up to 1980.

. Western Oregon

Optimum habitat conditions based on published guidelines are provided which will allow for an increase in elk and deer populations and will meet recruitment goals based on herd performance up to 1980.

3. Permanent habitat planning and record-keeping areas will be of the following sizes:

   a. Eastern Oregon - approximately 10,000 acres.
   b. Western Oregon - 1,000 to 6,000 acres.

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[3] State Water Resources Board, Salem.

Western snowy plover
Western spotted frog
(W. Ore.)

1. Existing habitat is maintained.
2. Degraded habitat is restored with the objective of building populations of appropriate species sufficient to cause delisting.
3. Habitat is provided for snowy plover in accordance with the Draft Western Snowy Plover Plan for Oregon.
4. Adequate habitat monitoring is assured to determine the effectiveness of planned action.

Road Management

1. Road management plans are included which describe measures to:

   (a) protect fish and wildlife habitat values
   (b) minimize disturbance of fish and wildlife
   (c) promote increased quality of recreational experiences

2. Impacts of roading must be addressed in overall habitat effectiveness evaluations for deer and elk using appropriate guidelines. (Brown 1985; Thomas 1979; (1); (6); (13)).
3. Criteria will generally not be met if new road systems are not designed to avoid important wildlife habitat areas such as winter ranges, thermal cover areas, known elk breeding areas, travelways, riparian areas except at crossings, and dedicated old growth stands.
4. Existing roads are managed to minimize conflicts in these areas.

   For the purpose of road management and closures to motor vehicles, motor vehicles will include any motor propelled vehicles, regardless of width.

Grazing

1. Existing and proposed livestock grazing systems are described by allotment. Descriptions of allotments will include:

   (a) a map showing allotments
   (b) range condition and trend data
   (c) proposed range improvements
   (d) a monitoringprocedure
   (e) a management adjustment procedure

2. If forage is allocated for big game, allocations are based on realistic evaluations of livestock and big game competition as described in reference (18), Chapter 10, page 411. Evaluations must be based on:

   (a) animal distribution
   (b) timing of grazing
   (c) forage availability
   (d) height of reach
   (e) diet similarity

ODFW supports the proposed management prescription for A-9 key site Riparian Areas. ODFW also supports the proposed additions to the Research Natural Areas in the preferred alternative.

ODFW would support recommendations to include the Clackamas, Roaring, White, and Salmon Rivers in the Wild and Scenic River System.

Evaluation of the DEIS and Proposed Plan was difficult due to the lack of:

1. A map of or acreage figures for seral stages by plant community;
2. A map of riparian zones by condition class;
3. Acceptable definitions of and maps for big game winter ranges;
4. Information on threatened, endangered, and sensitive fish and wildlife species;
5. Information for current conditions for dead and down woody habitats and future monitoring of these habitats.
6. Information on condition of range allotments and status of allotment management plans;
7. Information on travel and access management plans;
8. Acknowledgement of ODFW big game benchmarks;
9. Discussion of appropriate elk habitat effectiveness models;
10. Acceptable standards and guidelines for big game habitat management; and
11. Specific habitat information that is based on an area analysis as opposed to a forestwide analysis.

OREGON DEPARTMENT OF FISH AND WILDLIFE CONCERNS AND RECOMMENDATIONS

ODFW considers its position on the amounts and condition of resources comprising or affecting fish and wildlife habitat to be realistic and reasonable. Recommendations consistent with this position are presented for:

1. Aquatic/Riparian Habitats
2. Big Game Habitat
3. Management Indicator Species
4. Access and Travel Management
5. Roadless Areas
6. Old-Growth Habitat
7. Dead and Down Woody Habitat
8. Habitat Diversity
9. High Elevation Forests
10. Standards and Guidelines
11. Monitoring
12. Special Interest Areas
13. Grazing

1. Aquatic/Riparian Habitats

This section applies broadly to streams, waterbodies, springs, seeps, marshes, meadows, and mesic lodgepole sites.

The Forest has adequately acknowledged the importance of aquatic/riparian habitats, and has proposed prescriptions that would improve the protection of these habitats. The Aquatic/Riparian Habitats management prescriptions are: Key Site Riparian Areas (A9), Special Watershed Emphasis (B6), and General Riparian Areas (B7). Prescriptions B6 and B7 allow scheduled timber harvest activities to accomplish riparian management objectives. The goals for these two prescriptions are to maintain or improve the aquatic and riparian habitats for the sustained long-term production of fish, wildlife, plants, and high quality water. ODFW does not believe scheduled timber harvest activities are compatible with these goals; therefore, ODFW recommends no programmed harvest from the riparian areas. ODFW also recommends no livestock grazing in riparian areas in less than "good" ecological condition. Ecological condition for eastside riparian zones needs to be evaluated using "Managing Riparian Ecosystems (Zones) for Fish and Wildlife in Eastern Oregon and Eastern Washington" (1979).

Many areas of the Forest have unstable soils and pose a high risk of debris torrents and mass soil failures. The Forest recognized that, due to these risks, some alternatives will reduce: (1) soil and channel stability, (2) water quality and, (3) input of large woody material. ODFW cannot support any alternative that would degrade aquatic habitats.

The cumulative impacts of the proposed alternative in Fawn, Rhododendron, Tumble, Lower, Pinhead, and Camp Creeks (all productive wild trout streams in the upper Clackamas River System) would put an unacceptably high risk of increased sediment loads into the highly productive Big Bottom Area. Big Bottom is a high quality spawning area for wild spring chinook, steelhead, and coho.

needs to be reduced by the Forest to prolong production of quality forage. Well distributed clearcuts adjacent to optimum thermal cover should be enhanced for big game forage with seedings and fertilizer at a rate of 1,000 acres per year.

ODFW recommends consideration of the following seed mixture:

Species	Pounds Per Acre	
	Westside	Eastside
Cascade Trefoil	2	-
White Clover	6	-
Annual Ryegrass	5	-
Perennial Ryegrass	2	2
Orchardgrass	2	6
Yellow Blossom Sweet Clover	-	2
Burnet	spot	-

(Refer to: Krueger and Ramsey, 1986. Grass-Legume Seeding to Improve Winter Range Forage for Roosevelt Elk: A Literature Review, Special Report 763. Ag. Experiment Station, OSU. 28 pp.).

On permanent forage areas, ODFW supports removal of encroaching conifers. It would be desirable to plant or seed certain shrub species on forage areas; however, finding a seed or seeding source may prove difficult. In general, most of the non-deciduous Ceanothus species are desirable big game winter browse.

ODFW recommends no scheduled timber harvest in the B4 pine/oak management areas.

ODFW cannot support the Forest's elk/deer output levels as anything more than an index. The Forest did not use habitat capability models to develop trend predictions, but instead relied on a forage base. Even if state-of-the-art models were used Thomas (1979) warned that habitat effectiveness (HE) "is poorly related to and therefore not a good predictor of, densities of big game animals."

The Forest discloses it has the capability to increase big game populations and the option of maintaining desired levels through all decades. ODFW is concerned the Forest's apparent preference for departure timber harvesting precludes this option. Cover:forage standards of departure harvest are not adequate for anything other than long term instability in big game use levels. The high harvest activity levels encouraged by the Forest on its intensive roading network negates the limited cover:forage considerations, and makes protection from harassment and poaching extremely difficult. ODFW recommendations, if implemented, would avert predicted declines in big game populations and perpetuate traditional levels of big game use and enjoyment.

In addition to forage production, the standards and guidelines for big game need to address three cover types (hiding, thermal, optimal thermal) as defined in "Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington" (Brown 1985). Cover management objectives are tied directly to forage site management, since hiding and thermal cover are lost on clearcut areas, and thermal cover is reduced on thinned units. The relationship of forage areas to hiding and thermal cover should, therefore, meet the guidelines presented in Brown (1985). These guidelines would ensure adequate thermal cover was near planned thinned units, or postponement of thinning until elk hiding cover developed in the forage area. The guidelines also provide for visual barriers between openings and roads to reduce vehicle disturbance to deer and elk.

To stabilize cover and forage relationships over time in an attempt to meet deer and elk population benchmarks, ODFW recommends the Forest's final plan set management direction to achieve evenflow on 1,000-6,000 (3,000 to 10,000 on eastside) acre permanent resource scheduling areas (RSA's) on timber management lands. RSA boundaries must not overlap adjacent unavailable or unsuitable lands by more than one-quarter mile. Ten-year harvest dispersion on the RSA's would be dictated by existing conditions, and stability would be attained with an average harvest of 10-12 percent per decade in regulated forest units. To maintain appropriate forage and cover relationships, clearcuts should not exceed 40 acres per block, with 5-20 acres preferred. Hiding cover succession criteria on created clearings should be changed to 10 foot tall trees, accounting for slope.

The RSA should also be the HE monitoring unit, involving all HE attributes (including roads), along with project area evaluations. To achieve desired big game outputs, the goal by RSA should be at least 0.5 HE. The Forest must make Forest-wide use of "A Model to Evaluate Elk Habitat in Western Oregon" (Wisdom 1986) in forest management and planning, as agreed upon by USFS, BLM, and ODFW.

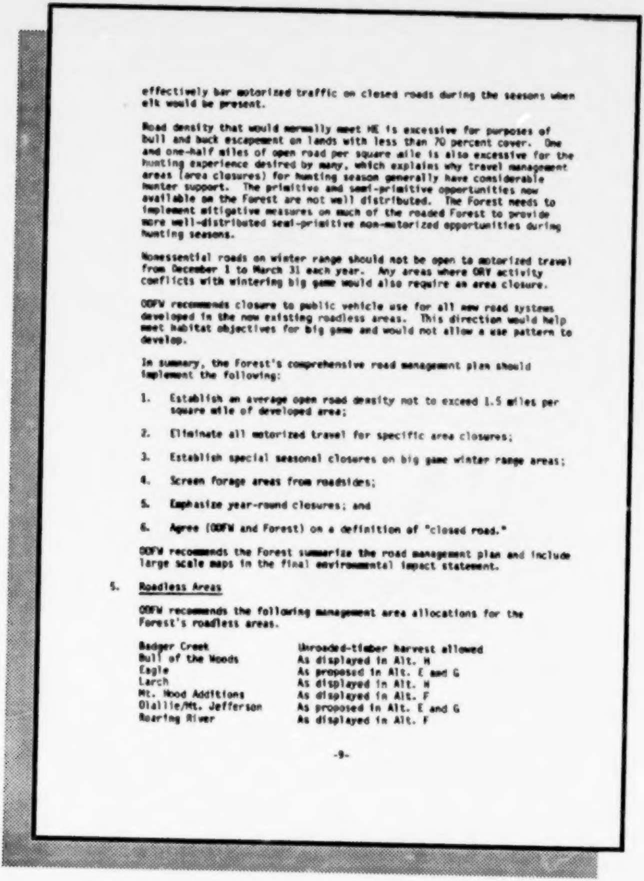
3. Management Indicator Species

ODFW is concerned with the proposed management strategies for management indicator species (MIS) and offers the following recommendations to resolve those concerns:

Spotted Owls

Every effort needs to be made to provide the best remaining habitat and distribution pattern for this species. Based on research, ODFW recommends at least 2,200 acres of old-growth/mature forests be maintained for each selected pair.

ODFW continues to support management of existing large blocks of contiguous, suitable habitat to maintain the spotted owl and associated species over the long term based on the result of the risk analysis conducted by Region 6 USFS for the spotted owl SEIS, and current thoughts on island biographic theory. Large block areas would include multiple pairs of owls and replacement habitat.



effectively bar motorized traffic on closed roads during the seasons when elk would be present.

Road density that would normally meet HE is excessive for purposes of bull and buck escapement on lands with less than 70 percent cover. One and one-half miles of open road per square mile is also excessive for the hunting experience desired by many, which explains why travel management areas (area closures) for hunting season generally have considerable hunter support. The primitive and semi-primitive opportunities now available on the Forest are not well distributed. The Forest needs to implement mitigative measures on much of the roaded Forest to provide more well-distributed semi-primitive non-motorized opportunities during hunting seasons.

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ODFW recommends closure to public vehicle use for all new road systems developed in the now existing roadless areas. This direction would help meet habitat objectives for big game and would not allow a use pattern to develop.

In summary, the Forest's comprehensive road management plan should implement the following:

1. Establish an average open road density not to exceed 1.5 miles per square mile of developed area;
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3. Establish special seasonal closures on big game winter range areas;
4. Screen forage areas from roadsides;
5. Emphasize year-round closures; and
6. Agree (ODFW and Forest) on a definition of "closed road."

ODFW recommends the Forest summarize the road management plan and include large scale maps in the final environmental impact statement.

5. Roadless Areas

ODFW recommends the following management area allocations for the Forest's roadless areas.

Badger Creek	Unroaded-timber harvest allowed
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Larch	As displayed in Alt. H
Mt. Hood Additions	As displayed in Alt. F
Olallie/Mt. Jefferson	As proposed in Alt. E and G
Roaring River	As displayed in Alt. F

Salmon-Huckleberry	As displayed in Alt. F
Twin Lakes	Unroaded-timber harvest allowed
Wind Creek	As proposed in Alt. E and G

Site-specific comments for each roadless area are found in our response to DEIS Appendix C.

The management of those areas recommended for dispersed recreation strategies would help meet the wildlife policy of the State of Oregon by providing for optimum fish and wildlife recreational and aesthetic benefits for present and future generations of the citizens of the state.

Roadless areas respond in part to those big game hunters who identified forest roading as number one of 32 concerns expressed at statewide workshops. In addition, water quality is better within roadless areas and nonroaded areas help provide bull and buck escapement while maintaining the hunting opportunity. Roadless areas also provide natural habitat diversity and solitude for a variety of nongame species.

6. Old-Growth Habitat

ODFW has two concerns with the proposed old-growth habitat management on the Forest: (1) the lack of proper distribution of these habitats, particularly at lower elevations, and (2) the amount of old growth by plant community. ODFW habitat protection criteria for forested lands is met where "A minimum of 5-15 percent of each major plant community on the forest is dedicated old-growth stands, well distributed by slope, aspect, and elevation throughout the forest." The Forest needs to display the amount and location of current old-growth habitats by plant communities, since ODFW cannot determine if this criteria is met based on the information provided in the DEIS.

The Forest has displayed a map titled "Wildlife Resource" which includes spotted owl, pileated woodpecker, and pine marten habitat areas. The Forest needs to identify which areas are currently in the lower successional stages and, therefore, do not meet the habitat requirements for the three indicator species.

The Forest should follow the habitat definitions from "Regional Guide for the Pacific Northwest Region" when identifying old-growth habitat acreage by plant community.

7. Dead and Down Woody Habitat

ODFW recommends the Forest adopt a minimum snag policy of 60 percent potential population level for the general forest allocations, and a 100 percent level for all other allocations to meet ODFW protection criteria. Areas of past management activity or firewood cutting with less than 60 percent of potential population snag levels should be surrounded by an area of equivalent size that is managed at the 100% level.

Special Wildlife Habitats and Habitat Features

The Department's habitat diversity objective on managed forest lands throughout the state is to encourage perpetuation of the naturally occurring mix of habitat types, and plant communities in sufficient amounts adequately distributed to maintain wildlife species in compliance with Oregon's Nongame Wildlife Plan (OAR 635-100-001 through 635-100-030.

Old growth

1. A minimum of 5% to 15% of each major plant community in the forest is dedicated old growth stands, well distributed by slope, aspect, and elevation throughout the forest.
2. Dedicated old growth[1] stands must include a sufficient amount and distribution of existing stands to maintain the existing populations of old growth dependent species.
3. Managed old growth stands will be in addition to, and not in lieu of, dedicated old growth stands.
4. Criteria will not be met in old growth areas where fuel wood cutting and open roads are permitted.

Snags

1. An inventory of existing snags and potential snag habitat is included.
2. A sufficient amount of habitat is provided to maintain cavity dwelling species at 100% of the population potential in areas managed especially for old growth, old growth species, and cavity dwelling species.
3. On the remainder of the forest, habitat is provided to maintain cavity dwelling species at or above 60% of the population potential.
4. Methods to protect snags and leave trees from slash burning and fuel wood cutting are assured.
5. A snag habitat monitoring program is assured.

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[1] See glossary for "old growth".

Dead and down woody material

1. Dead and down woody material is planned for and provided, based on published guidelines, to maintain dependent wildlife species in the planning area.
2. Strategies are included to protect the habitat components from fuels management, slash disposal, fuel wood cutting, and yarding activities.
3. A habitat monitoring program is assured. (Brown 1985 and Thomas 1979).

Hardwoods and "minor" Conifer Species

1. At least 10 percent stocking of naturally occurring hardwood species and at least 10 percent stocking of "minor" conifer species should be retained.
2. In contiguous hard-wood stands (i.e., alder, oak, tan oak) at least 25 percent of the stand should be retained through the natural succession, except for migratory deer winter ranges in southern Oregon.
3. Migratory winter ranges are generally composed of oak-grassland habitat interspersed with scattered conifer groves (generally 5 to 40 acres in size). All existing acreage of this habitat type should be retained (including the conifer groves) with management activities limited to those which will enhance winter range values.[1]

Riparian

1. Total riparian acreage and existing conditions are shown.
2. Evaluation parameters for management of riparian habitat are:

   (a) stream surface shaded
   (b) streambank stability
   (c) stream-bed sedimentation
   (d) Grass-forb cover
   (e) shrub cover
   (f) tree cover.

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[1] These criteria are not intended to conflict with special management prescriptions for riparian zones or stream buffers which may include more restrictive retention standards.

4. Habitat conditions in the permanent planning area are described using size and spacing and road density. In western Oregon forage quality and cover quality must be included.

5. Elk and deer cover and forage requirements by geographic area are included using the following descriptions:

   a. Summer Range

      (1) Eastern Oregon - a total of 40% cover well distributed over the summer range comprised of the following components: 10% thermal cover[1], 20% hiding cover[2]; and 10% of either hiding or thermal cover (thermal, preferably). Thomas 1979. (p. 131, fig. 72.

      (2) Western Oregon - a total of 50% in well distributed thermal cover stands (of which at least 25 percent is optimal thermal cover)[3], and about 20% in forage areas.

   b. Winter Range

      (1) Eastern Oregon - 50% of the area in well distributed thermal cover stands.

      (2) Western Oregon - a total of 50% in well distributed thermal cover stands (of which at least 25 percent is optimal thermal cover), and about 20% in forage areas.

         West Slope Cascades - In addition to the above, on each major drainage corridor in winter range a belt 1/4 mile wide on each side of the stream will be in optimal thermal cover (21" d.b.h. and greater on approximately a 200 year rotation). Forage areas (clearcuts 0" to 5" d.b.h.) will not exceed 10 acres in size and will be well distributed throughout the drainage. The rotation produces a sustainable ratio of 50% optimal thermal cover, 25% thermal cover, 15% thermal shade (hiding cover) and 10% forage.

6. The following special elk habitats are identified in the permanent planning area for special management or protection: (1) calving and fawning areas; (2) calf rearing and fawn rearing areas; (3) travelways; (4) known breeding areas; (5) winter range; (6) high use areas such as riverine habitat, basins, meadows, grass/timber mosaics, benches, and mineral licks.

7. The plan describes the following:

   a. Current situation.
   b. Changes by alternative.
   c. Maximized deer and elk output or potential outputs.

---

[1] See glossary for definition of thermal cover.
[2] See glossary for definition of hiding cover.
[3] See glossary for definition of optimal thermal cover.

. The plan assures monitoring of the cumulative effects of habitat conditions in the permanent planning areas through time.

. The plan predicts changes in habitat using habitat effectiveness procedures. (13), (14).

ecies of Special Concern - Federal and State Threatened and Endangered ecies

Federally threatened and endangered species are provided for as required by the Endangered Species Act of 1973.

ld eagle

1. Protective measures for existing nests, roosting, feeding and wintering areas meet the requirements of the Bald Eagle Management Guidelines, Oregon-Washington, USDI Fish and Wildlife Service.

2. Potential habitat is protected as set forth in the Bald Eagle Recovery Plan.

3. Adequate habitat monitoring is assured to determine the effectiveness of planned action and recovery efforts.

regrine falcon

1. Habitat inventory is displayed.

2. Existing and potential nesting and feeding habitat is protected in a sufficient amount to meet the objectives in the Pacific Coast Recovery Plan for the American Peregrine Falcon, August 1982. Objectives will be revised as necessary to reflect the most current scientific information.

3. Adequate habitat monitoring is assured to determine the effectiveness of planned action and recovery efforts.

rthern spotted owl

1. Habitat areas of proper size, distribution and spacing to maintain the species in perpetuity are provided and protected that meet or exceed standards contained in the Oregon Interagency Spotted Owl Management Plan. The standards will be revised to meet the most current scientific information.

2. Adequate habitat monitoring is assured to determine the effectiveness of planned action.

GLOSSARY

CROWN CLOSURE	The percent of ground area covered by the tree and shrub canopy when viewed from overhead.
HABITAT DIVERSITY	The relative degree of abundance of various habitat types, plant species or plant communities on a given area.
HIDING COVER, ELK/DEER	A vegetation stand at least 600 feet wide which is capable of hiding from human view 90 percent of a standing adult animal at 200 feet or less, generally meaning any vegetation used by deer or elk for security or escape purposes.
OLD GROWTH	Generally a forest stand several hundred years old, characterized by a mixture of large, old seral-dominant trees and a subcanopy of shade-tolerant trees, some showing decadence, and an understory of shade-tolerant herbs and shrubs. Key elements of old growth forests are: (a) large live trees; (b) large snags; and (c) large down logs, both in stream and on land. Snags and down logs are in various stages of decomposition. Other common features are dense, deep, multi-layered canopies and a range of tree sizes and ages. Exact composition, structure, and age vary regionally (e.g. sitka spruce in coastal forests, noble fir in subalpine forests, and white fir in the Blue Mountains) and locally depending on moisture and temperature regimes. Mixtures of several tree species are common (Brown 1985; Thomas 1979; (2), (8)).
THERMAL COVER, OPTIMAL THERMAL COVER	A multi-layered forest stand 40 feet or more in height, with 70% or greater average crown closure, 30 to 60 acres in size and from 600 to 1,200 feet wide. In addition Optimal Thermal Cover, as used in western Oregon, is a stand of trees with 21 inches d.b.h. or greater for maximum snow intercept capability. Where mule deer are the primary species, thermal cover is a stand of saplings or shrubs, evergreen or deciduous, at least 5 feet tall, with 70% or more crown closure; or a forest stand of at least pole size or larger with a crown closure of 70% or more. Optimum sized areas from 2 to 5 acres. On winter range all thermal cover must be evergreen and may include any of the following: (a) a forest stand of at least pole-sapling stage; (b) tree and shrub combinations such as juniper/big sagebrush; (c) juniper; and (d) shrub stands such as Mountain big sagebrush, Mountain mahogany, or Bitterbrush (16); Thomas 1979; (5)(8).

TRAVELWAYS	All routes used by animals to move from one area to another. Includes terms: travel route, travel corridor, migration route, and migration corridor. It is generally the most suitable route in that it has the easiest access (i.e., on ridgetops or floodplains), and cover to meet climatic needs.

BASIC REFERENCES

Brown, E. Reade. Tech. Ed. Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington. 1985.

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OTHER REFERENCES

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(2) Heinrichs, J. Old Growth Comes of Age. Journal of Forestry. 776-779. 1983.

(3) Leckenby, Donavin A. Elk Use and Availability of Cover and Forage Habitat Components in the Blue Mountains, Northeast Oregon, 1976-1982. Oregon Department of Fish and Wildlife, Research and Development, Wildlife Research Report Number 14.40. 1984.

(4) Legislative Task Force Reports on ODFW Management Objectives for Rocky Mountain Elk and Mule Deer.

(5) Maser, C. and J. W. Thomas. Tech. Eds. Wildlife Habitats in Managed Rangelands—The Great Basin of Southeastern Oregon. USDA Forest Service. Pacific Northwest Forest and Range Experiment Station:
    (a) Gen. Tech. Rep. PNW-139.40.1975.
    (b) Gen. Tech. Rep. PNW-84.16.1979.
    (c) Gen. Tech. Rep. PNW-80.16.1978.
    (d) Gen. Tech. Rep. PNW-85.17.1979.
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(6) ODFW/Department of Forestry. Wildlife Habitat Considerations in Forest Operations. 1983.

(7) ODFW Oregon Umpqua Wildlife Management Plan Draft. 1984.

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(13) USDA Forest Service Manual, Title 2500, Ch 2520 - Watershed Protection and Management.

(14) USDA Forest Service, Letter 2630, Habitat Effectiveness (H. E.) Correlation with C/F, August 29, 1984. (Ochoco Forest to Umatilla Forest).

(15) USDA Forest Service Letter 2610, Cooperative Relations, Pacific Northwest Region. 1979.

(16) USDA Forest Service. Wildlife Habitat Relationships of South Central Oregon by Area 4 National Forests. 230 pp. 1976.

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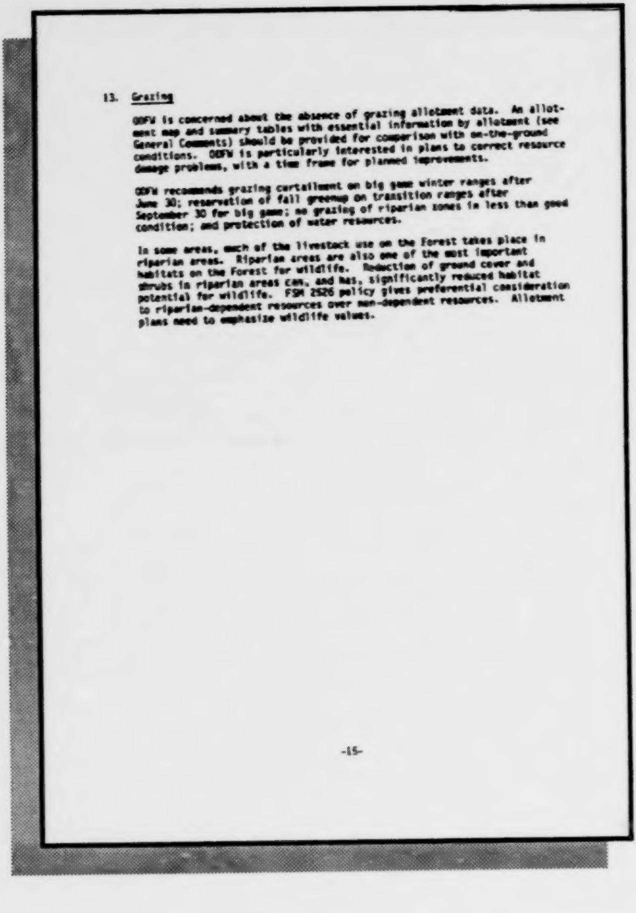


13. Grazing

ODFW is concerned about the absence of grazing allotment data. An allotment map and summary tables with essential information by allotment (see General Comments) should be provided for comparison with on-the-ground conditions. ODFW is particularly interested in plans to correct resource damage problems, with a time frame for planned improvements.

ODFW recommends grazing curtailment on big game winter ranges after June 30; reservation of fall greenup on transition ranges after September 30 for big game; no grazing of riparian zones in less than good condition; and protection of water resources.

In some areas, much of the livestock use on the Forest takes place in riparian areas. Riparian areas are also one of the most important habitats on the Forest for wildlife. Reduction of ground cover and shrubs in riparian areas can, and has, significantly reduced habitat potential for wildlife. FSM 2526 policy gives preferential consideration to riparian-dependent resources over non-dependent resources. Allotment plans need to emphasize wildlife values.

DRAFT ENVIRONMENTAL IMPACT STATEMENT
ALTERNATIVES (DEIS Chapter II)

P. II-35 Paragraph 1.

How does timber harvest maintain, restore, or enhance a natural appearing forest? (DEIS II-35).

P. II-47 Range Management

The Forest has assumed that all timber harvest units produce the same amount of forage for transitory range. This assumption is not valid due to the wide range of site differences on the Forest (i.e., westside vs. eastside).

P. II-50 Table II-18

Population estimates for silver gray squirrels, wild turkey, elk, and deer are not realistic. The Forest used an inappropriate forage assumption to derive deer and elk numbers, and poor assumptions for the development of population estimates for silver gray squirrels and turkeys.

P. II-53 Dispersed Recreation

Nonconsumptive use of wildlife is increasing on all National Forests in Oregon. These users annually spend an amount of money equal to that of hunters. The Forest needs to recognize this use.

AFFECTED ENVIRONMENT (DEIS Chapter III)

Last paragraph

ODFW supports the Forest's statement, "In the short run, protecting soil productivity may appear contrary to the economic interests of nearby communities..."

P.III-8 Table III-1

The table indicates the Forest has 71,400 acres of water surface. Page 2-9 of the Proposed Plan states "Surface water on the Forest totals more than 18,000 acres...." What is the correct surface area of water on the Forest? (DEIS III-8-1).

P. III-10 Paragraph 2

This section lists several streams with high summer water temperatures. What are the summer water temperatures for these streams? (DEIS III-10).

reared at the hatchery were released below the dam because there were no screens on the diversion canal. The spring chinook run above the dam was essentially eliminated many years ago by the low transportation flow in the river below the dam, and the hatchery program at the dam. In recent years, natural production has occurred from introduced hatchery fish.

Table III-5

Eagle Creek National Fish Hatchery presently does not raise spring chinook.

P. III-28 Second Paragraph

The Forest states: "If the condition of the Forest's fish habitats are allowed to continue to decline the adverse impact upon the communities near the Forest will be large." Existing Forest anadromous and resident fish production is valued at an estimated $3 million and $1 million annually, respectively. What would the values be if the Forest streams had optimum fish production? (DEIS III-28).

P. III-29 Table III-7

The smolt estimates are considered high by ODFW.

P. III-30 Top of right column

The Forest states: "If management miscalculates in identifying the amount and distribution of old growth, the resulting problem could take more than two centuries to correct." This is a good point for decision makers to keep in mind. Miscalculations of any resource managed at low or minimum levels can result in significant resource impacts.

Table III-8, (footnote)

The Forest needs to use the Regional Guide refined definitions for old growth by plant communities.

Third paragraph

This paragraph summarizes well the planning dilemma of instability in habitats that could be avoided by managing subbasins to meet habitat objectives.

(3) Special Habitats

What are the current conditions for dead and downed woody habitats on the Forest? (DEIS III-31). This information should be broken down by subdrainages.

Paragraph 6

The Forest recognizes the pine-oak zone is important to silver gray squirrels, turkeys, Lewis woodpecker, and cavity nesting birds. It is also important for deer and elk winter range. Of equal importance in the pine-oak zone is the cover associated with fir.

Paragraph 7

"According to some authorities, a lack of snags can reduce the population of cavity-nesting birds." The Forest needs to reword this statement to: "According to all authorities, a lack of snags will reduce populations of cavity-nesting birds."

P.III-32 (1) Habitat Use and Dependency

The Forest has presented a good discussion on this topic.

Table III-9

The number of species listed for pole-sapling, young forest, and mature forest stand conditions appear quite high. The Forest needs to cite the reference for this information.

Next to last paragraph

The Forest needs to include a section to discuss state listed species and Region Six sensitive species. The State of Oregon lists the wolverine and the western spotted frog as threatened. The Townsend's big-eared bat is a Region Six sensitive species that is found on the Forest.

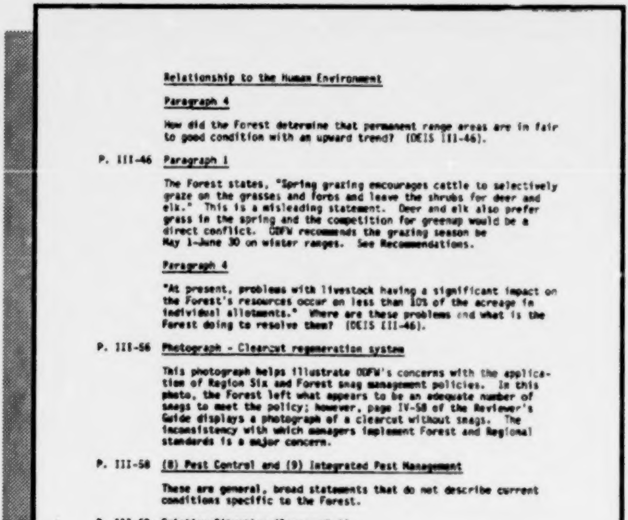
Management Concerns

P. III-34 Paragraph 1

"...habitats for all existing native and desired nonnative species of plants, fish, and wildlife must be managed to maintain, as a minimum, viable populations of such species." Managing the Forest for this level of wildlife is a direct conflict with State policy. State policy is to, "Maintain all species of wildlife at optimum levels...."

(1) State and Forest Coordination

Wildlife populations are a product of the habitat available to them. ODFW input needs to be part of project planning, since ODFW has data and experience that can help the Forest in these efforts. Areas important to wildlife need identification in timber sale planning, particularly Category C (C-1) lands and riparian/wetland areas, in order to "maintain and improve" habitat diversity. The North Fork of the Clackamas River is an example of a subbasin that is proposed for C-1. With proper planning this area could come back into big game use.



Relationship to the Human Environment

Paragraph 4

How did the Forest determine that permanent range areas are in fair to good condition with an upward trend? (DEIS III-46).

P. III-46 Paragraph 1

The Forest states, "Spring grazing encourages cattle to selectively graze on the grasses and forbs and leave the shrubs for deer and elk." This is a misleading statement. Deer and elk also prefer grass in the spring and the competition for greenup would be a direct conflict. ODFW recommends the grazing season be May 1-June 30 on winter ranges. See Recommendations.

Paragraph 4

"At present, problems with livestock having a significant impact on the Forest's resources occur on less than 10% of the acreage in individual allotments." Where are these problems and what is the Forest doing to resolve them? (DEIS III-46).

P. III-56 Photograph - Clearcut regeneration system

This photograph helps illustrate ODFW's concerns with the application of Region Six and Forest snag management policies. In this photo, the Forest left what appears to be an adequate number of snags to meet the policy; however, page IV-58 of the Reviewer's Guide displays a photograph of a clearcut without snags. The inconsistency with which managers implement Forest and Regional standards is a major concern.

P. III-58 (8) Pest Control and (9) Integrated Pest Management

These are general, broad statements that do not describe current conditions specific to the Forest.

P. III-62 Existing Situation (Paragraph 1)

"...approximately 3,651 miles of roads." The Forest needs to state how many acres of the forest is roaded.

P. III-63 Figure III-9

Road densities by major drainage depicted in the figure are misleading. Actual densities on the roaded portion of the Forest are masked by including wilderness and roadless areas. The Forest must display current road densities for the roaded portion of the forest only.

ODFW estimates the road density on the roaded portion of the Forest is approximately 3.0 miles per square mile. The relationship of road densities to elk habitat effectiveness is displayed in an interagency single-line road-discount curve. The discount curve indicates that a road density of 3.0 miles would reduce elk habitat effectiveness by more than 65 percent. For this reason, ODFW recommends not more than 1.5 miles of open roads per square mile as a forest-wide standard.

The Forest states "...515 miles are closed to non-authorized traffic." 1) Where are these closures? 2) How were the closures accomplished? 3) What is the level of compliance? 4) What are the objectives of the closures? 5) How much authorized vehicle use occurs on these roads? (DEIS III-63-1-5).

P. III-64 (4) Wildlife (Sent. 3)

"Seasonal road closures... have become necessary to reduce the number of hunters...." Where is this the case? (DEIS III-64). Cooperative road closures are not for the purpose of reducing the number of hunters. The effect of road use on elk has been well documented and the Forest needs to address in this discussion how roads diminish habitat effectiveness. The interagency single road discount curve indicates a 25 percent reduction in habitat effectiveness for each mile of open road per square mile of habitat.

P. III-65 (6) Water

Average road density for the Forest of 2.12 miles per square mile is very misleading (see comment for P.III-63).

The discussion of the impact of roads is a key issue. ODFW strongly supports travel management to protect wildlife habitat and improve the quality of hunting. Fig. III-9 demonstrates an urgent need for closures in several drainages.

ENVIRONMENTAL CONSEQUENCES (DEIS Chapter IV)

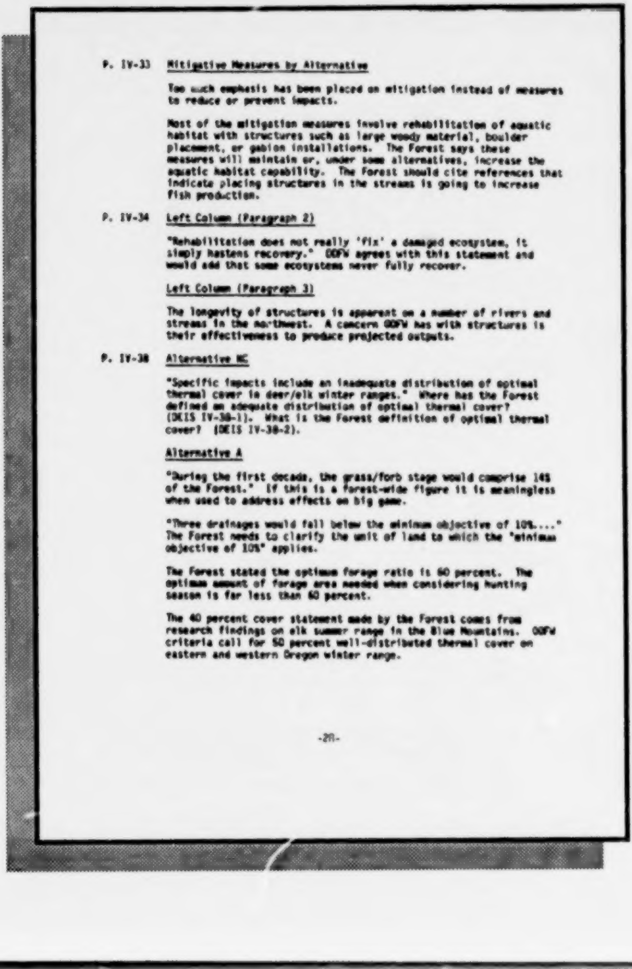
P. IV-21 (Paragraphs 1, 2. 3, left column). The discussion supports the need to retain old-growth habitats at a level considerably above minimum management requirements.

(a) Old growth Acreage

The Forest needs to use the Region Six definitions for old growth.

P. IV-23 (d) Riparian Vegetation)

ODFW supports the first and last sentence of this paragraph.



P. IV-33 Mitigative Measures by Alternative

Too much emphasis has been placed on mitigation instead of measures to reduce or prevent impacts.

Most of the mitigation measures involve rehabilitation of aquatic habitat with structures such as large woody material, boulder placement, or gabion installations. The Forest says these measures will maintain or, under some alternatives, increase the aquatic habitat capability. The Forest should cite references that indicate placing structures in the streams is going to increase fish production.

P. IV-34 Left Column (Paragraph 2)

"Rehabilitation does not really 'fix' a damaged ecosystem, it simply hastens recovery." ODFW agrees with this statement and would add that some ecosystems never fully recover.

Left Column (Paragraph 3)

The longevity of structures is apparent on a number of rivers and streams in the northwest. A concern ODFW has with structures is their effectiveness to produce projected outputs.

P. IV-38 Alternative NC

"Specific impacts include an inadequate distribution of optimal thermal cover in deer/elk winter ranges." Where has the Forest defined an adequate distribution of optimal thermal cover? (DEIS IV-38-1). What is the Forest definition of optimal thermal cover? (DEIS IV-38-2).

Alternative A

"During the first decade, the grass/forb stage would comprise 14% of the Forest." If this is a forest-wide figure it is meaningless when used to address effects on big game.

"Three drainages would fall below the minimum objective of 10%...." The Forest needs to clarify the unit of land to which the "minimum objective of 10%" applies.

The Forest stated the optimum forage ratio is 60 percent. The optimum amount of forage area needed when considering hunting season is far less than 60 percent.

The 40 percent cover statement made by the Forest comes from research findings on elk summer range in the Blue Mountains. ODFW criteria call for 50 percent well-distributed thermal cover on eastern and western Oregon winter range.

P. IV-39 Alternative E (Paragraph 2)

The Forest states: "Nonetheless, compliance with MMRs would assure an adequate amount and distribution of mature and old-growth forest." The Forest needs to recognize that elk and deer use old-growth stands as optimal thermal cover and this need will not be met with the amount and distribution of old growth proposed for pine marten and pileated woodpecker.

P. IV-40 Mitigation Measures for Wildlife

Bottom of left column

ODFW takes exception to the statement, "Loss of old-growth and mature forest habitats cannot be mitigated very effectively, although retaining and creating snags and fallen trees can help to provide critical habitat components that prevent the total elimination of some wildlife species relying on older forest stands."

When old-growth habitats are harvested, they are lost. The Forest has the ability to grow old-growth trees but the ability to grow old-growth habitat has yet to be demonstrated. A key component of old-growth habitats is an understory and forest floor undisturbed by man. In the above statement by the Forest, there is confusion over the needs of wildlife species dependent on old-growth habitats and species dependent on dead and down woody habitat in open early successional stages. Creating snags and downed trees will benefit the early successional wildlife species, but would do nothing to mitigate the effects of lost old-growth habitat.

P. IV-75 Short-Term Uses and Long-Term Productivity

Why is there no discussion of the long-term productivity of big game herds and old-growth dependent species? (DEIS IV-76).

Table IV-17

Alternative E should be displayed in this table.

P. IV-77 b. Irretrievable Commitments

A discussion needs to be developed for wildlife. Implementation of Alternative E would result in an irretrievable loss of old-growth and mature dependent species, and in big game numbers.

DESCRIPTION OF THE ANALYSIS PROCESS
DEIS Appendix B

P. B-46 Paragraph 5

Cannot find Table II-3a.

P. C-26 Paragraph 3

Does not mention protecting and maintaining water quality for hatchery supplies, etc.

P. C-30 Larch

ODFW recommends allocation as displayed in Alternative H.

This area provides habitat for the usual species of game animals as well as a small population of mountain goats. The area has a population of Larch Mountain salamander. There is also potential nesting habitat for peregrine falcon and bald eagle. Special interest species include pika and osprey.

P. C-33 ODFW recommends inclusion of two Special Interest Areas, Face of the Columbia Gorge and Larch Mountain, in the final plan (see comments on SIA's.

P. C-34 Next to last paragraph

Does not mention protecting and maintaining water quantity for important uses.

P. C-38 Mt. Hood Additions (06093)

ODFW recommends allocation as displayed in Alternative F.

P. C-46 Olallie/Mt. Jefferson (06099)

ODFW recommends allocation as proposed in Alt. E and G.

P. C-54 Roaring River

ODFW recommends allocation as displayed in Alternative F.

This basin is an important spawning and rearing area for wild steelhead, chinook, and coho salmon, and resident trout. Its primitive, unroaded, and largely untrailed condition provides good habitat and light angling pressure on the fish resources. It also provides a unique opportunity for quality hike-in angling which is not available in many places.

P. C-58 Paragraph 2

Does not mention native resident trout in streams or introduced resident trout in lakes.

P. C-68 Salmon/Huckleberry (06095)

ODFW recommends allocation as displayed in Alternative F.

Management as displayed in Alternative F would improve habitat diversity for wildlife.

ODFW is concerned about water quality and fish habitat in Still Creek (a Special Emphasis Watershed) if roading and logging occurs in Place A.

What will be the impact from roads and logging in "B Places" on water quality and fish habitat in the Salmon River, downstream in the Wilderness Area? (App. C-60). The Salmon River is the most important salmon and steelhead tributary in the Sandy River drainage.

ODFW is concerned about Squaw Meadows and the potential impact on fish and wildlife habitat from roading and logging (Squaw Meadows proposed as SIA and key site Riparian Area) (Place D-East Area).

Paragraph 2

Does not mention native resident trout in streams, or introduced trout populations in lakes.

P. C-72 Twin Lakes (06096)

ODFW recommends allocation to an unroaded management prescription that would allow aerial logging.

P. C-74 Plans for roading and logging this area are completed and ready for implementation. From a wildlife standpoint, the area currently provides habitat for pileated woodpecker, pine marten, deer, elk, and spotted owl. It has the habitat characteristics favorable to wolverine, and a great blue heron rookery is present. The Skyline Trail traverses its length.

No MMRs are recommended for the area but, because of the heavy use by pileated woodpeckers and potential marten habitat, ODFW recommends establishment of an MMR centered on the Pacific Crest trail west of Twin Lakes. ODFW prefers the rest of the area remains roadless, even if the area was to have some logging. Radio telemetry demonstrates a large segment of the Hunter Prairie deer population prefers to summer at this elevation. A roadless area designation, increased forage, and a more balanced cover/forage ratio would enhance this area for big game. A SOHA and MMR's would protect present old-growth ecosystem values.

P. C-79 Wind Creek (06094)

ODFW recommends allocation as proposed in Alternative E and G.

The roadless status of this area needs to be maintained to provide a primitive recreation angling experience at Mirror and Wind Lakes.

P. C-81 If the south side of the Wind Creek Area is roaded and logged, what will be the impact on water quality and fish habitat in Still Creek, a Special Emphasis Watershed? (App. C-81).

> "Standards and guidelines state the bounds or constraints within which all practices will be carried out in achieving the planned objectives. Therefore, standards and guidelines should be measurable to be meaningful. There is little purpose in defining standards and guidelines for which no methods of measuring the degree of compliance or attainment exist."

ODFW recommends development of a strong set of specific standards for the Plan. By definition, a standard is a point to measure against or a basis for comparison. The qualifiers used (such as some, sufficient, where needed, significant, should, etc.) are subjective and do not allow for comparison. The Forest must develop clear and objective standards which would provide guidance for implementing the final plan. Toward this end, ODFW recommends the Forest use the definitions (below) developed by the Siskiyou National Forest for four of the most often used terms instead of those definitions displayed in the proposed plan. In addition, the Mt. Hood National Forest would need to define other terms used in the standards and guidelines that can be subjective in nature.

> "The type of direction and degree of restriction are identified by the terminology in the Standards and Guidelines. To understand the intent of the direction, the interpretations of the terms used are critical.
>
> "The first intent is conveyed by the word 'shall.' With this degree of restriction the action is mandatory in all cases.
>
> "The second is conveyed by the word 'should.' With this degree of restriction, action is required, unless justifiable reason exists for not taking action. This direction is intended to require a practice unless it entails unacceptable hardship or expense. Exceptions to "should" restrictions are expected to occur infrequently.
>
> "The third type of direction uses the word 'practicable' and acknowledges that a given practice is not always feasible and practical in every situation. It is intended to encourage, but not require, a practice.
>
> "The fourth uses the word 'may' and has to do with activities which may or may not be appropriate, depending on circumstances. For example, grazing may be consistent with the objectives of certain management areas, but specific sites may or may not contain suitable forage. This direction is intended to allow for taking advantage of compatible opportunities, or to provide for exceptions when objectives of a particular standard can be met through alternate methods."

An established set of standards would lead to more consistent management across the Forest. For this reason, ODFW recommends the use of more specific standards in the final plan.

11. Monitoring

ODFW considers most of the species and habitat monitoring programs proposed in the Forest Plan inadequate due to the low reliability of the results. Because the Plan deals with theoretical minimum level populations, a high level of monitoring reliability is necessary; therefore, monitoring methods must be detailed so reviewers can assess the reliability of the results.

ODFW recommends modification of monitoring methods to obtain a high level of reliability. The use of an index figure is an inadequate monitoring scheme for primary cavity excavator populations. Instead, snag retention (hard and soft) and dead and down material should be monitored annually in units not to exceed 80 acres. Pine marten population trends should be based on track counts, and forest-wide elk populations should be monitored using Wisdom's Habitat Effectiveness Model.

The monitoring plans for habitat suitability for spotted owls, pileated woodpeckers, and pine marten are inadequate. The variability that would initiate further evaluation should be set at five percent of designated habitat areas found to be unsuitable rather than a fixed 40 acres for each species. The proposed spotted owl monitoring plan is inadequate to determine if all designated SOHA's are occupied and if they provide the best habitat for owl survival. Additional effort needs to be put into monitoring designated sites to ensure that the best sites are selected.

Verification of occupancy for pileated woodpecker and pine marten sites should also be included in the monitoring plan. A statistical sample of these sites should be conducted during habitat suitability monitoring to verify occupancy.

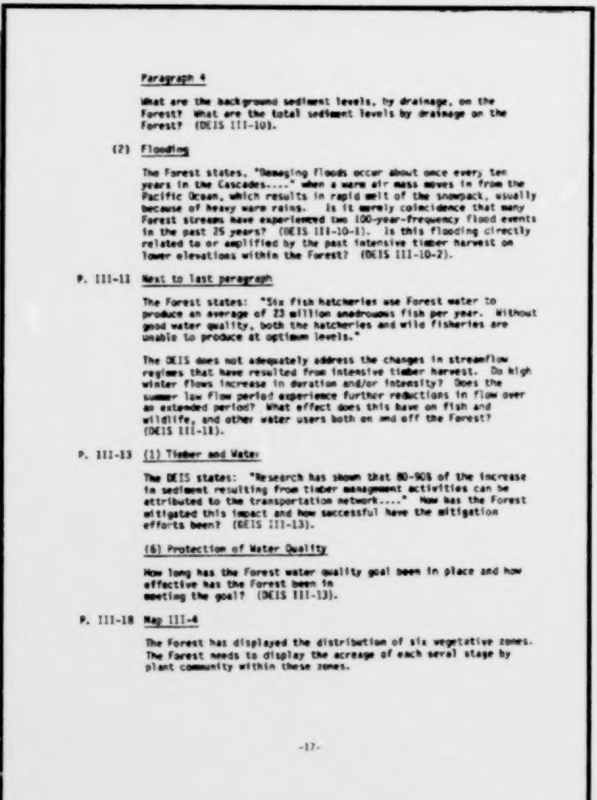
A monitoring plan for compliance with road closures needs to be developed.

Fish and wildlife monitoring activities should be conducted through a cooperative effort between ODFW and the Forest. ODFW recommends the Forest consider development of a cooperative position for the purpose of conducting most of the fish and wildlife monitoring activities.

12. Special Interest Areas

ODFW supports the proposed Special Interest Areas (SIA) displayed in Alternative E and recommends all areas be included in the final plan. ODFW recommends the Forest acquire the private land at Squaw Meadows as an addition to the SIA. The private land includes some of the best fish and wildlife habitat at the site.

ODFW further recommends the areas around Surprise, Si, and Bumb Lakes be designated as SIA because of the importance of these areas as travel routes, summer range, and calving sites for elk.



Paragraph 4

What are the background sediment levels, by drainage, on the Forest? What are the total sediment levels by drainage on the Forest? (DEIS III-10).

(2) Flooding

The Forest states, "Damaging floods occur about once every ten years in the Cascades...." when a warm air mass moves in from the Pacific Ocean, which results in rapid melt of the snowpack, usually because of heavy warm rains. Is it merely coincidence that many Forest streams have experienced two 100-year-frequency flood events in the past 25 years? (DEIS III-10-1). Is this flooding directly related to or amplified by the past intensive timber harvest on lower elevations within the Forest? (DEIS III-10-2).

P. III-11 Next to last paragraph

The Forest states: "Six fish hatcheries use Forest water to produce an average of 23 million anadromous fish per year. Without good water quality, both the hatcheries and wild fisheries are unable to produce at optimum levels."

The DEIS does not adequately address the changes in streamflow regimes that have resulted from intensive timber harvest. Do high winter flows increase in duration and/or intensity? Does the summer low flow period experience further reductions in flow over an extended period? What effect does this have on fish and wildlife, and other water users both on and off the Forest? (DEIS III-11).

P. III-13 (1) Timber and Water

The DEIS states: "Research has shown that 80-90% of the increase in sediment resulting from timber management activities can be attributed to the transportation network...." How has the Forest mitigated this impact and how successful have the mitigation efforts been? (DEIS III-13).

(6) Protection of Water Quality

How long has the Forest water quality goal been in place and how effective has the Forest been in meeting the goal? (DEIS III-13).

P. III-18 Map III-4

The Forest has displayed the distribution of six vegetative zones. The Forest needs to display the acreage of each seral stage by plant community within these zones.

P. III-20 Paragraph 2

"The Riparian area of fish-bearing, perennial streams was calculated as the space between each bank and lines parallel to them, 100 feet upland from each. A similar technique was used for intermittent streams; however a width of 50 feet from each bank was applied." How much riparian habitat exists on the Forest? (DEIS III-20).

Management Concerns (Last Paragraph)

"Approximately 5,000 acres of streamside riparian areas are classified as full protection leave areas due to high risk of sedimentation." Where are the 5,000 acres? (DEIS III-20-1).

P. III-25 a. Background (Paragraph 2)

The Forest states: "Long-term fisheries production depends on the Forest to provide spawning and rearing habitat, as well as a quality source of fresh water for downstream fisheries and fish hatchery use." What priority does the Forest place on optimizing fish production on and off the Forest when it acknowledges that past and potential future Forest timber management activities degrade water quality and aquatic habitat on and off the Forest? (DEIS III-25).

P. III-26 Table III-3

ODFW is not aware of any golden trout on the Forest at the present time. The Dolly Varden is now called the bull trout; this fish is classified as a sensitive species and is on the U.S. Fish and Wildlife Service Notice of Review. Bull trout are found in Clear Branch Creek of the Hood River system. This area should be allocated to an A-9 prescription. The Forest needs to recognize the discovery of a genetically unique rainbow trout in the White River System by Ken Currens of Oregon State University.

Table III-4

The smolt estimates are considered high. This table differs from the table on page 2-8 of the Proposed Plan, yet they both come from the same source. Which table is correct? (DEIS III-26). ODFW recommends the Forest display the current five-year average contribution of the Forest to the commercial, Native American, and sport fisheries to illustrate the magnitude of the Forest's contribution to this resource.

P. III-27 Paragraph 1

It is highly unlikely that any native spring chinook exist in Still Creek or the Salmon River. Spring chinook were trapped at Marmot Dam for many years to supply eggs for a hatchery at the dam. Fish

(2) Indicator Species Management

Three areas are listed as wildlife management areas for deer and elk winter range. It is not clear what this designation means. How are these lands treated differently from the other 177,000 acres of winter range? (DEIS III-34).

The Forest states in sentence two "Clearcut timber harvesting and careful planning of areas for forage and cover should produce stable or slightly increasing populations of these [deer and elk] animals." This can only be true if cover/forage requirements are met and open road densities are reduced to less than 1.5 miles per square mile of habitat.

In 1980, Region Six requested specific input from ODFW to aid the Forests in the planning effort. The following two tables were sent to the Region as a result of that request and need to be included in this chapter.

Unit	Bulls /100 Cows	Bucks /100 Does	Winter Benchmark			
			Unit		Forest	
			Elk	Deer	Elk	Deer
Santiam	7	15	5,900	51,600	2,200	12,900
White River	5	25	1,030	8,900	230	500
Hood	5	25	120	400	20	10
Totals			7,050	60,900	2,450	13,410

The number of adult deer and adult elk expected on the Forest in summer, when winter herd size meets benchmarks and management objectives (above) are as follows:

Unit	Forest Summer Allocation	
	Adult Elk	Adult Deer
Santiam	2,400	14,000
White River	800	5,000
Hood	100	300
Totals	3,300	19,300

The discussion on other indicator species is inadequate or omitted. There is no discussion on pileated woodpecker, turkey, silvery gray squirrel or pine marten.

(3) Quality of Habitat Concerns

Next to last paragraph

The Forest states "In recent years, snags in old-growth forests have been left standing in many timber sales, specifically to benefit wildlife." This is true, but only half the problem is being addressed. The Forest needs to leave live replacement trees to provide future snags when the current snags fall, and before live trees are big enough to produce the desired number and size of dead and down woody habitats.

In recent years Region Six has required snags to be left in all timber sales. How many snags are being left and has the Forest been able to protect the snags from post sale activities and firewood cutting? (DEIS III-34).

Paragraph 5

Enough is known about the use of talus slopes by Larch Mountain Salamander for the Forest to manage for their protection.

Last paragraph

The Forest states "In spite of substantial and increasing concerns over the conditions of riparian habitats, these have been and will continue to be lost." They have been lost in the past, but need not be lost in the future. See Recommendation section.

III-35. **Second paragraph under Table III-13**

How much of a reduction has there been in escaped slash fires? (DEIS III-35).

P. III-45 **Column 2, Paragraph 2**

Does the range condition rating include riparian areas as well as uplands? (DEIS III-45-1). Is the condition of both riparian and uplands "good with an upward trend?" (DEIS III-45-2).

Relationship to the Natural Environment

Paragraph 1

Cattle grazing can and does have a significant impact on fish habitat, and should be noted.

P. III-45 **Paragraph 3**

The Forest states: "Environmental degradation caused by grazing livestock is relatively simple to prevent or minimize." However, simple remedial measures can be costly. What has the Forest done to prevent or minimize environmental degradation from livestock grazing? (DEIS III-45).

P. IV-24 **Effects of Alternative Activities on Aquatic Resources**

"Reported...conditions from the model for aquatic stability, long-term trend, and 'extreme event' occurrences assume that a variety of mitigation and rehabilitation measures would be routinely funded and applied on a timely basis."

Fourth paragraph

"The model measures future aquatic ecosystem stability on a scale from zero, the least stable, to ten, the most stable." The preferred alternative has a rating of 3.5, which would seem to indicate that there will be some level of degradation of aquatic habitat in the next decade.

Despite some noteworthy steps to protect and/or enhance riparian and instream habitat in a limited number of key site riparian and special emphasis watershed stream reaches, it is doubtful that the Forest can protect water quality and/or riparian dependent resources under the preferred alternative scenario. The Proposed Plan states (4-214 D para 2) "The riparian resource management program strikes a basic balance between the management of fish habitat, water quality, and the requirements of other resource programs." Later, however, the Proposed Plan (4-215, para 2) indicates, "The net result of the Plan's riparian allocations and management emphasis should be general, Forestwide maintenance of the riparian resource conditions." Does this mean that the plan will attempt to maintain the riparian resources at the present degraded condition (III-21 para 2)? (DEIS IV-24).

In many Forest streams, large woody debris provides critical instream diversity. This is especially true of streams in the Hood, Fifteenmile, and White River basins. However, under the preferred alternative Forest Standards in Category D (4-62 L.3.), some standards apparently require foresters to "Manage salvage of streamside vegetation to...avoid debris accumulation." This action appears to directly conflict with the Forest standards and guidelines for riparian areas.

Right Column, Paragraph 2

"Cumulative effects are examined primarily within the context of the Forest land base." The Forest must also state the cumulative effects of forest management activities on off-Forest resources.

Right Column, Paragraph 4

Projects creating the need for mitigation must not be implemented if funding for mitigation is inadequate. With the expertise available to the Forest, there should be no poorly designed mitigation projects, nor any that are incompletely applied.

P. IV-27 Alternative E, Paragraph 1

The Forest states: "This alternative provides moderate to substantial improvements to riparian area and aquatic habitat management...." However, Table IV-3 indicates low to moderate stability. It appears that alternatives NC, B, C, and E would all result in continued deterioration of riparian dependent resources. At best, the long-term trend is for slight improvement. Considering past degradation, managing for "slight" improvement is inadequate.

Paragraphs 2-5

The short-term aquatic habitat stability for the preferred alternative is rated moderate to low. The long-term rating is stable to slightly improving. Under extreme environmental conditions, stable to slightly declining. Less than average aquatic conditions are predicted for the Oak Grove Fork and upper Clackamas River drainages. Minor reductions in fish rearing capabilities are possible on the upper main-stem Clackamas and associated upper basin tributaries. The potential for increased fish production doesn't look good under the preferred alternative.

The Forest has stated, "For all soil types east of the Cascade Crest, the erosion hazard is moderate to high, and the compaction hazard is moderate." A significant portion of the remaining merchantable timber is in the most difficult to reach locations, often times located in environmentally sensitive areas (i.e., steep slopes, highly erosive soils, slope failure areas, or critical stream corridors). Is it possible to maintain Forest water quality if timber harvest continues on these lands, as proposed, at the departure or beyond sustained yield level? (DEIS IV-27).

The Forest has stated (DEIS III-8) "...compaction and soil movement resulting mainly from timber harvest have reduced site productivity on approximately 30,000 acres." In other words, nearly 5 percent of the suitable timber acres have reduced timber production potential. Continued harvest at proposed departure levels would almost certainly increase this acreage figure. Does the Plan consider long-term soil degradation impacts on future timber production? (DEIS IV-27).

The preferred Forest Plan Alternative (E) continues the "departure timber cut," which further risks not only the water quality, but impacts other resource as a result of altered streamflow regimes. Alternative E places needed emphasis on protecting the sensitive riparian vegetation along stream corridors; however, this may not provide adequate water quality protection. A stream's physical characteristics are often a barometer reflecting the overall condition of its watershed. Rapid and excessive removal of vegetation within a watershed can result in disastrous consequences which even the best riparian corridor can only moderate or mask.

P. IV-39 Alternative E (Paragraph 2)

The Forest states: "Nonetheless, compliance with MMRs would assure an adequate amount and distribution of mature and old-growth forest." The Forest needs to recognize that elk and deer use old-growth stands as optimal thermal cover and this need will not be met with the amount and distribution of old growth proposed for pine marten and pileated woodpecker.

P. IV-40 Mitigation Measures for Wildlife

Bottom of left column

ODFW takes exception to the statement, "Loss of old-growth and mature forest habitats cannot be mitigated very effectively, although retaining and creating snags and fallen trees can help to provide critical habitat components that prevent the total elimination of some wildlife species relying on older forest stands."

When old-growth habitats are harvested, they are lost. The Forest has the ability to grow old-growth trees but the ability to grow old-growth habitat has yet to be demonstrated. A key component of old-growth habitats is an understory and forest floor undisturbed by man. In the above statement by the Forest, there is confusion over the needs of wildlife species dependent on old-growth habitats and species dependent on dead and down woody habitat in open early successional stages. Creating snags and downed trees will benefit the early successional wildlife species, but would do nothing to mitigate the effects of lost old-growth habitat.

P. IV-75 Short-Term Uses and Long-Term Productivity

Why is there no discussion of the long-term productivity of big game herds and old-growth dependent species? (DEIS IV-75).

Table IV-17

Alternative E should be displayed in this table.

P. IV-77 B. Irretrievable Commitments

A discussion needs to be developed for wildlife. Implementation of Alternative E would result in an irretrievable loss of old-growth and mature dependent species, and in big game numbers.

DESCRIPTION OF THE ANALYSIS PROCESS
DEIS Appendix B

P. B-46 Paragraph 5

Cannot find Table II-3a.

P. B-92 Paragraph 2

The Forest states, "Key Site Riparian areas will not have a chargeable timber harvest." This level of habitat protection is highly desirable and should be applied to all riparian areas.

P. B-170 Table B-VIII-4

Is this table displaying harvest dispersion? (DEIS B-170).

UNROADED AREAS - DEIS Appendix C

P. C-5 Badger Creek (06097)

ODFW recommends allocation to an unroaded management prescription that would allow aerial logging.

P. C-12 Bull of the Woods (06098)

ODFW recommends allocation as displayed in Alternative H.

The area provides habitat for a diversity of wildlife species, including spotted owls, pine marten, pileated woodpecker, elk, deer, bear, and cougar. The roadless area designations would protect the diversity of habitat types that are found in the area.

Paragraph 3

Does not mention resident trout in lakes and streams.

Last paragraph

ODFW is concerned about the large amount of logging proposed in the upper Collawash River drainage and the potential impacts on water quality and fish habitat from increases in water temperatures and sediment loading. The proposed harvest area includes several tributaries of the Collawash River. What will be done to ensure protection and maintenance of aquatic habitat?

P. C-21 Eagle (06090)

ODFW recommends allocation as proposed in Alternatives E and G.

There are three hatcheries that rely on high quality water from this area. Timber harvest on the steep slopes of this area, which has high precipitation, would increase the risk of siltation and high water temperatures to these hatcheries.

The area also provides habitat for upland game and nongame. There are potential nesting and foraging sites for peregrine falcon and bald eagle.

PROPOSED PLAN

Summary of the Analysis of the Management Situation

P. 2-8 Supply of Water (Paragraph 2)

The Forest states "Water quality...is generally excellent with a few local problems." DEIS III-10 (top, left column) states management activities on the Forest have led to some serious water quality problems. The latter statement appears to be the more correct assessment of conditions.

P. 2-11 Table Two-5

The Forest needs to explain the relationship between the six age groups in this table and the five age groups in Table Two-3 on p. 2-4. There are a number of discrepancies.

P. 2-14 Demand for Wildlife

The directive referred to is not a mandate for the Forest to seek the lowest level of habitat constraint, as it has done for MIS pileated woodpecker and pine marten.

P. 2-34 Information Needs

ODFW agrees with the information needs listed for fish and wildlife.

RESPONSE TO PUBLIC ISSUES AND MANAGEMENT CONCERNS

P. 3-4 Riparian

ODFW finds the Forest proposal to manage riparian-dependent resources at a "moderate" level unacceptable. The Forest needs to take a strong position on the protection and enhancement of riparian ecosystems.

P. 3-5 Wildlife

The Forest is not responsive to the public issue on wildlife habitats. Populations of most wildlife species would decline under the proposed plan.

The Forest states, "Under the Plan, sufficient habitat is provided to maintain minimum viable populations of species." Maintaining populations at minimum viable levels is not an acceptable condition.

FOREST MANAGEMENT DIRECTION

P. 4-2 A.4. The Forest must meet or exceed state water quality standards.

A. 8. "Maintain viable wildlife population areas in perpetuity; maintain or enhance the overall quality of wildlife habitat; and provide management of deer and elk winter range." ODFW believes this Forest Management Goal is not attainable in the Preferred Alternative because of the departure and accelerated cut of old growth. ODFW recommends the following wording for this goal: "Provide habitat for wildlife populations at optimum levels."

P. 4-4 The Forest in Ten Years

Timber

How many acres of old-growth habitat would be cut in 10 years? (PP 4-4).

Wildlife

The first sentence should read: "Habitat will be managed for fewer...."

P. 4-5 Paragraph 1

"The mixture of forage and cover needed by deer and elk will be addressed." This section ("The Forest in ten years") is intended to give readers an idea of what conditions will be like ten years from now. The Forest needs to describe the expected conditions instead of stating "will be addressed."

P. 4-6 The Forest in 50 years (paragraph 3)

"Deer and/or elk populations may decrease." The output table indicates that both deer and elk population levels would decline from current levels under the preferred alternative. The Forest's reference to rehabilitation to increase fish populations suggests the proposed standards and guidelines are not sufficient to protect aquatic resources.

P. 4-9 Definition of verbs

The Forest should be commended for defining the management intent of the verbs "must, shall," etc. However, it was revealed in discussions with Forest staff that these definitions were added after at least some of the standards and guidelines were written. With this in mind, it is not clear whether some of the key verbs used on pages 4-10 through 4-236 were intended as finally defined on page 4-9. Since intent is unclear, we recommend the following changes in verbs.

Forestwide Standards

P. 4-14 Riparian Areas

Recommended rewording:

1.A. "Projects ...shall conform to established standards." "Opportunities ...shall be identified and scheduled."

1.B. "...and shall include sufficient upland transition zone to meet riparian standards."

1.C. "...must include the total riparian area within the selected drainage or subdrainage." The term "total" needs to include Class IV streams.

P. 4-15 TABLE FOUR-1

2B, 2C. Change should to shall.

2. Soils

2.A. The Forest refers the reader to soil standards for the definition of "Activity Area." Since the definition is not in the soil standards, it should be stated here.

Standards 2B and 2D should apply to Class I, II, III, and IV streams.

P. 4-16 3.A. Add: shall maintain existing capability.

4.A. Shall maintain or increase....

Standard 4A (2) should be 100%. Standard 4B. Should include class III streams.

P. 4-17 4.E. Shall maintain or increase....

5. Terrestrial Habitat

5A-G. Shall maintain....

Standards 5A, 5B, 5C, and 5D should apply to riparian areas on Class IV streams.

5E, 5F, and 5G should all be at the 100% level.

P. 4-20 Water

The Plan does not address the need to protect and maintain minimum existing streamflows.

P. 4-21 Habitat Improvement and Maintenance

ODFW supports these standards and recommends the following additions under B:

(3) Roads to some lakes should be closed to maintain semiprimitive recreational experience and prevent overuse (examples: Bump, Cottonwood Meadows, and North Brown lakes).

(4) Construction of trails to lakes without developed access shall be discouraged.

(5) Lakes managed for walk-in access: a. Views of the lake from newly constructed roads should be prevented. b. Areas viewed from these lakes should be managed for retention.

P. 4-26 Wildlife

The Forest needs to address ODFW objectives for wildlife similar to the way ODFW objectives for fish were addressed.

1.B. and C. The Forest has not identified habitat for threatened and endangered species. These habitats cannot be maintained if they are not identified.

1. D. The Forest needs to maintain a continuous accounting of cumulative impacts.

1. E. Region Six monitoring plans for spotted owls are inadequate to meet the intent of this statement. No meaningful trends can be developed unless all SOHA's are checked annually.

1. F. "Plant and animal diversity shall be maintained or enhanced." How does the Forest propose to accomplish and monitor this standard when large areas are scheduled for maximum modification? (PP 4-26).

P. 4-27 3. How will snags and downed woody material be protected? (PP 4-27). See Recommendations.

The Forest needs to establish protection standards for cliff, talus, and cave habitats.

P. 4-28 Winter Range

Winter range should be the dominant function of areas so identified. Winter range objectives should constrain all other activities. There is nothing in "6. Timber Management" that defines cover forage ratios. Add to 6.A. "Cover shall be maintained around meadows."

5.A. What is compatible grazing use? (PP 4-28). Grazing on the eastside generally needs to be confined to the period May 1–June 30.

P. 4-94 Research Natural Areas

Standards 10.A. and 17.D. are not consistent with the goal.

P. 4-102 9.C. Firewood cutting must be regulated to retain dead and down woody habitats at the 100 percent potential population level.

P. 4-113 9.C. Same as P. 4-102(9.c.).

P. 4-118 9.C. There should be no firewood cutting within the SOHA's.

P. 4-121 A9-KEY SITE RIPARIAN HABITAT

ODFW supports the concept, description, goals, management, and standards for this prescription. ODFW recommends this prescription be applied to those areas identified in Alternative F, as well as those identified in Alternative E.

7.C. When MA's overlap, the more restrictive prescription should be applied.

P. 4-123 8.A. This standard should recognize that grazing may need to be eliminated, either temporarily or permanently, to meet riparian resource objectives.

8.B. ODFW supports the restriction on chemical use in riparian zones for any reason.

P. 4-124 D. ODFW supports the restrictions on firewood cutting in these areas.

P. 4-126 15.C. The use of the word "consider" weakens this standard.

P. 4-136 6. & 7. Wildlife and Fisheries.

The Forest must establish a standard to prohibit recreational development in sensitive wildlife areas.

P. 4-143 WILD, SCENIC & RECREATIONAL RIVERS

ODFW supports the proposed river classifications in the Plan. These prescriptions would provide appropriate fisheries and wildlife protection in those stretches of designated rivers.

P. 4-148 8.A. Change to read "...livestock grazing...may be allowed...."

P. 4-153 Management Activities

See Recommendations for Dead and Down Woody Habitats.

P. 4-155 6. The Forest needs to provide standards for non-structural wildlife habitat improvement projects.

P. 4-156 9.C. "...down material and standing dead material in sufficient quantity...." What is the definition of "sufficient quantity?"

P. 4-164 B4-PINE/OAK HABITAT

The motivation for planned management activities is unclear. Where is the research literature that says five mature pine trees per acre will provide quality and quantity habitat for the listed species? Does this mean each acre has five mature pines or does this mean only those acres with pine will have five mature trees? (PP 4-164). What about all those acres of pure oak stands? (PP 4-164).

Timber management will not improve the pine/oak stands but, instead, is expected to diminish this habitat type. Wildlife objectives will not be met by thinning or harvesting the conifers. Indicator species are dependent upon all available pine/oak habitat. Projected outputs of 300 percent for squirrels and wild turkeys is based on faulty assumptions. ODFW recommends no programmed timber harvest in the pine/oak type. ODFW further recommends the Forest recognize and address the importance of the fir component of the pine/oak type.

The Forest needs to incorporate habitat protection guidelines from the following references for the B4-Pine/Oak Habitat MA.

Crawford, John A. and Scott R. Lutz. 1984. Merriam's in Wasco County. PR-W-79-R-2 Federal Aid to Wildlife Restoration Funds. 39 pp.

Wish, Darrell H. 1973. Guidelines for Managing the Habitat of Merriam's Turkey. Publication No. 73-5 Utah State Department of Natural Resources. 26 pp.

P. 4-166 8. A. Current research indicates grazing is not compatible with wild turkey management unless a light use, rotation system is used. Under current conditions within the pine/oak habitat, grazing is mostly uncontrolled, with overgrazing taking place on numerous drainages.

9. A. Current research indicates harvest unit sizes should be less than five acres in order to enhance wild turkey habitat. This standard states harvest units will average 20 acres or less. ODFW recommends an average unit size of five acres, and maximum size of ten acres.

P. 4-167. 9. E. Turkey nesting generally occurs in the mixed conifer-oak zone upslope from the true pine/oak habitat. Nests are generally located on north-facing slopes among thinning slash. Thinning of the pine/oak habitat type will do nothing for turkey nesting habitat, and will reduce effective winter range cover.

	Decade		
	First	Second	Fifth
Silver Gray Squirrels	3,400	3,900	4,000
Turkey	700	1,000	1,500
Deer	9,200	10,000	11,000
Elk	4,300	4,500	5,000

P. 4-214 Fish and Wildlife

The Forest has made no mention of winter range in the Still Creek drainage in the DEIS. What are the allocation and standards that would provide high value winter range in this drainage? (PP 4-214).

The Forest states "...158,000 acres, representing 29 percent of the total potential area that could be managed for riparian-dependent resources...." The Forest has used a number of figures for riparian areas. The source of this figure needs to be explained.

P. 4-215 Paragraph 2

ODFW objects to the conditions described in the last sentence for riparian zones. See Recommendations.

Wildlife (Sentence 3)

"...many old growth related species will prevail." Which species will not prevail? Loss of any species is unacceptable.

IMPLEMENTATION & EVALUATION

P. 5-13 2.040 Soil and water improvement projects will be monitored by reviewing attainment reports. How will the Forest determine the effectiveness of these improvements? (PP 5-13).

P. 5-14 3.010 The Forest plans to monitor fish MIS; the Forest has not identified a fish MIS.

P. 5-17 3.031 Water temperatures should be monitored on all streams that are affected by management activities. The Forest needs to develop a Monitoring Plan for suspended sediments and long-term fluctuations in flow patterns.

P. 5-19 3.060 Same as comment in 5-13.

P. 5-25 6.012 "Population indexes" is proposed for monitoring silver gray squirrels and turkeys. What method would be used to determine the index? (PP 5-25).

6.013 The variability level of 50 percent is too high. Until better information on species needs in this habitat becomes available, ODFW recommends a variability level of 20 percent.

P. 5-26 6.021 Monitoring of cover/forage objectives cannot be accomplished because the parameters are not defined. See Recommendations.

6.031, 6.040, and 6.050 All have the same variability level, yet the size of each area is considerably different. ODFW recommends 6.031 at the proposed 40 acres; 6.040 should be 30 acres, and 6.050 should be 16 acres.

P. 5-32 Range

The Forest should provide examples of monitoring methods to be used and not simply refer to a handbook.

PROPOSED PLAN APPENDICES

P. FPA-4 What capital investment projects are planned (by year) for fish and wildlife? What KV enhancement projects are planned? (PP EPA-4).

P.FPA-19 Which range allotment plans will be updated during the life of this plan, and when? (PP EPA-19).

P. FPD-4 Management Areas A8 and B5

How will the Forest determine if ORV use is compatible with the management objectives of these MAs? (PP FPD-4).

5. a. Criteria is not met. Cover standards are not adequate and distribution is vague.

   b. Criteria is met to the extent possible in ponderosa pine.

6. Special habitats are discussed.

7. Current situation and potential changes are discussed. Outputs from the forage model used are questionable.

8. Monitoring of habitat effectiveness is not assured.

9. Cannot be maintained.

Species of Special Concern

Bald Eagle

1. Plan does not protect all inventoried sites. Plan does not identify potential recovery sites.

2. Recovery plan has been followed.

3. Monitoring is assured.

Peregrine Falcon

A recovery effort is planned, but potential recovery sites have not been identified.

Northern Spotted Owl

The Forest failed to provide a minimum of 2,200 acres per SOHA. SOHA's are not adequately protected against firewood cutting.

Western Snowy Plover

N/A

Road Management

1. General plans are included, but do not address wildlife needs.

2. Impacts not addressed in terms of habitat effectiveness.

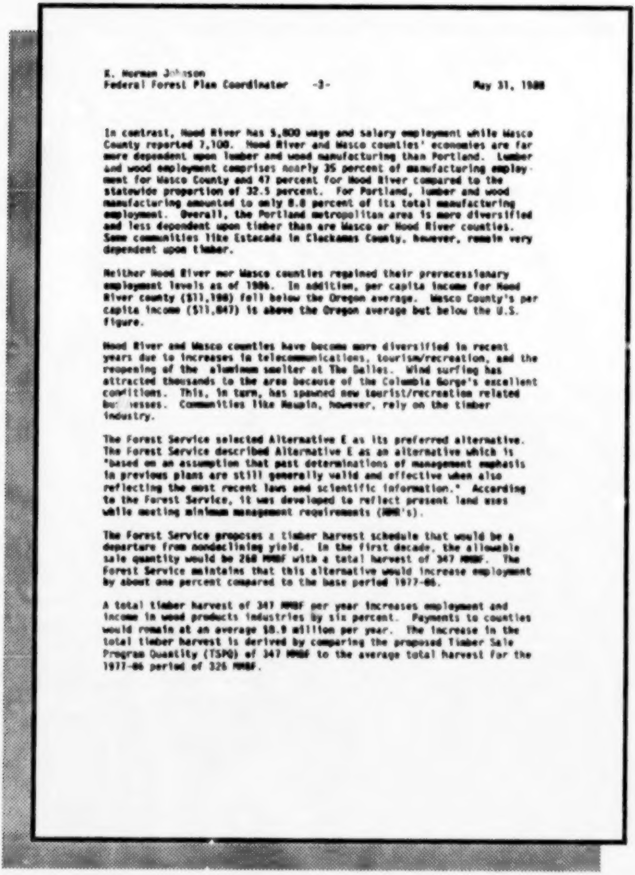
3. Criteria partially met in riparian and old-growth areas but does not include special wildlife areas.

4. Cannot determine existing road management strategies or potential for future road management areas.

Grazing

1. Allotment data is not provided, except for some discussion in wilderness/roadless areas.

2. Cannot determine how much forage is allocated to big game and no range condition evaluation is provided.



In contrast, Hood River has 5,800 wage and salary employment while Wasco County reported 7,100. Hood River and Wasco counties' economies are far more dependent upon lumber and wood manufacturing than Portland. Lumber and wood employment comprises nearly 35 percent of manufacturing employment for Wasco County and 47 percent for Hood River compared to the statewide proportion of 32.5 percent. For Portland, lumber and wood manufacturing amounted to only 8.8 percent of its total manufacturing employment. Overall, the Portland metropolitan area is more diversified and less dependent upon timber than are Wasco or Hood River counties. Some communities like Estacada in Clackamas County, however, remain very dependent upon timber.

Neither Hood River nor Wasco counties regained their prerecessionary employment levels as of 1986. In addition, per capita income for Hood River county ($11,198) fell below the Oregon average. Wasco County's per capita income ($11,847) is above the Oregon average but below the U.S. figure.

Hood River and Wasco counties have become more diversified in recent years due to increases in telecommunications, tourism/recreation, and the reopening of the aluminum smelter at The Dalles. Wind surfing has attracted thousands to the area because of the Columbia Gorge's excellent conditions. This, in turn, has spawned new tourist/recreation related businesses. Communities like Maupin, however, rely on the timber industry.

The Forest Service selected Alternative E as its preferred alternative. The Forest Service described Alternative E as an alternative which is "based on an assumption that past determinations of management emphasis in previous plans are still generally valid and effective when also reflecting the most recent laws and scientific information." According to the Forest Service, it was developed to reflect present land uses while meeting minimum management requirements (MMR's).

The Forest Service proposes a timber harvest schedule that would be a departure from nondeclining yield. In the first decade, the allowable sale quantity would be 268 MMBF with a total harvest of 347 MMBF. The Forest Service maintains that this alternative would increase employment by about one percent compared to the base period 1977-86.

A total timber harvest of 347 MMBF per year increases employment and income in wood products industries by six percent. Payments to counties would remain at an average $8.9 million per year. The increase in the total timber harvest is derived by comparing the proposed Timber Sale Program Quantity (TSPQ) of 347 MMBF to the average total harvest for the 1977-86 period of 326 MMBF.

According to the Forest Service, job changes from the base level (1977-86) by output for their preferred alternative are:

Change in Employment By Sector
Compared to base period 1977-86

Lumber and Wood Products	+313
Recreation	-105
Forest Service	+ 73
Total	+191

Comments

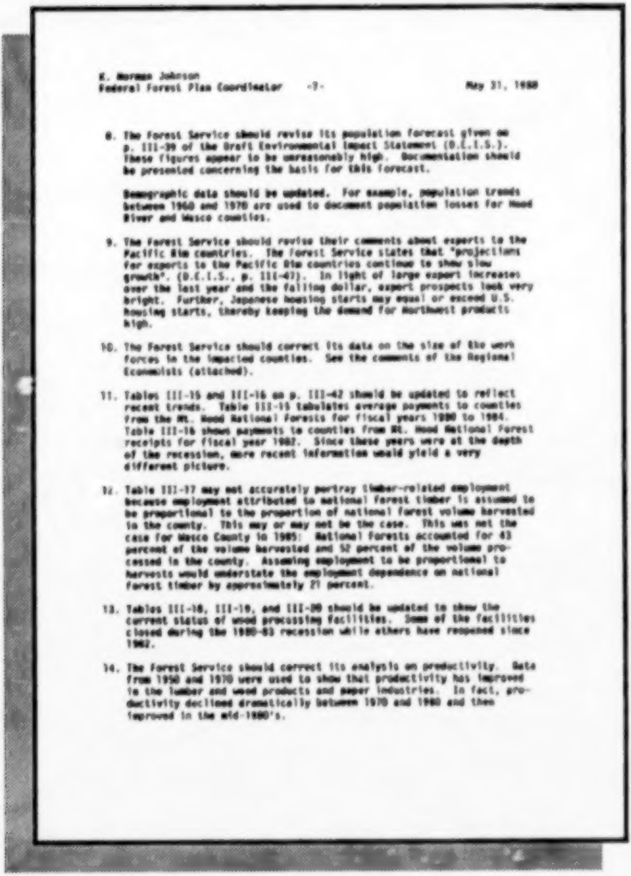
1. The Forest Service should expand their influence area to include the entire Portland Metropolitan area by adding Washington and Yamhill counties. Residents from these counties use the forest extensively for recreation. Further, the Portland labor market consists of four counties because of the commuting patterns that exist in the area.

   In general, there is a large inflow of commuters to jobs in the city of Portland from surrounding communities and counties. Thus one cannot judge the impact of alternative plans for the Mt. Hood National Forest solely on the basis of the number of people who live and/or work in Clackamas or Multnomah counties, or even on the basis of those who live and/or work in such wood products dependent communities as Molalla and Estacada.

   Washington and Yamhill counties should be included because of the relative magnitude of the indirect and induced impacts which occur in these counties. Excluding these counties appears to lessen the importance of the Portland Metropolitan Area to the Mt. Hood National Forest.

2. The proposed allowable sale quantity (ASQ) of 268 MMBF in the preferred alternative is 18 percent lower than the 1977-86 historic allowable sale quantity of 325 MMBF and 1.9 percent above the 1977-86 historic ASQ harvest of 263 MMBF. Recent years' harvests (1985-1987) have averaged 298 MMBF. Similar results are found if we look at the total timber sale program quantity.

   Timber harvest related employment and county payments will probably fall under the preferred Alternative E. A drop in the amount of sawtimber available to the mills is evident since the proposed allowable sale quantity is 1) lower than the historical sale and 2) lower than recent sale and harvest quantities (1985-87). This drop in available sawtimber may translate into fewer jobs and lower county payments rather than increases. The employment loss will depend upon whether private or other public lands can compensate and whether mill owners decide to trim a shift or close a mill.



K. Norman Johnson
Federal Forest Plan Coordinator -3- May 31, 1988

8. The Forest Service should revise its population forecast given on p. III-39 of the Draft Environmental Impact Statement (D.E.I.S.). These figures appear to be unreasonably high. Documentation should be presented concerning the basis for this forecast.

   Demographic data should be updated. For example, population trends between 1960 and 1970 are used to document population losses for Hood River and Wasco counties.

9. The Forest Service should revise their comments about exports to the Pacific Rim countries. The Forest Service states that "projections for exports to the Pacific Rim countries continue to show slow growth". (D.E.I.S., p. III-47). In light of large export increases over the last year and the falling dollar, export prospects look very bright. Further, Japanese housing starts may equal or exceed U.S. housing starts, thereby keeping the demand for Northwest products high.

10. The Forest Service should correct its data on the size of the work forces in the impacted counties. See the comments of the Regional Economists (attached).

11. Tables III-15 and III-16 on p. III-42 should be updated to reflect recent trends. Table III-15 tabulates average payments to counties from the Mt. Hood National Forests for fiscal years 1980 to 1984. Table III-16 shows payments to counties from Mt. Hood National Forest receipts for fiscal year 1982. Since these years were at the depth of the recession, more recent information would yield a very different picture.

12. Table III-17 may not accurately portray timber-related employment because employment attributed to national forest timber is assumed to be proportional to the proportion of national forest volume harvested in the county. This may or may not be the case. This was not the case for Wasco County in 1985: National Forests accounted for 43 percent of the volume harvested and 52 percent of the volume processed in the county. Assuming employment to be proportional to harvests would understate the employment dependence on national forest timber by approximately 21 percent.

13. Tables III-18, III-19, and III-20 should be updated to show the current status of wood processing facilities. Some of the facilities closed during the 1980-83 recession while others have reopened since 1982.

14. The Forest Service should correct its analysis on productivity. Data from 1950 and 1970 were used to show that productivity has improved in the lumber and wood products and paper industries. In fact, productivity declined dramatically between 1970 and 1980 and then improved in the mid-1980's.

15. Appendix B states that "Evidence does exist, however, that suggests that the elasticity in the portion of the timber demand curve for which the Forest can influence output levels is such that prices would be relatively insensitive to some 'reasonable' range of quantity offerings...that the timber demand curve for the range of output levels analyzed during the development of alternatives is nearly horizontal." In other words, the Forest Service is saying that price will not vary with the amount of timber offered. This does not appear reasonable because the National Forests supply the majority of timber for Oregon.

    Certainly the cumulative impact of the proposed harvests for all the National Forests in Oregon will significantly affect prices.

    Over the past decade, the primary impacts on timber industry employment have been technological changes affecting basic milling operations, economic cycles, and the expansion of remanufacturing operations. These factors will continue to be important, but timber supplies will play a more critical role.

    Increasing competition among mills has evolved because of diminishing supplies from nearby forests and private lands. The timber industry could face a supply gap due to projected lower harvests from private lands over the next 10 to 20 years together with proposed lower National Forest harvests.

    The degree to which declines in private and public lands overlap in the years ahead will have significant implications for the total timber supply available to mills. The mills could face shortages and/or higher stumpage prices as a result.

16. The Forest Service notes on p. III-53 of the D.E.I.S. that "a million board feet of lumber provides jobs for about four logging/sawmill workers, plus additional indirect or induced employment". The analysis should be based on timber harvested in which case a million board feet of timber will provide six to seven forest industry jobs instead of four.

17. It appears that the average income estimates for recreation-related and lumber and wood products workers connected with the Mt. Hood National Forest may be too high. See the Regional Economist's comments for details.

18. Recreation is very important to many communities. Yet, the Forest is showing a reduction of 105 recreation jobs. Across alternatives, employment does not vary despite the array of land allocations presented. Why is this? Are there no alternatives that heavily emphasize recreation to the extent that new jobs are created? If not, an alternative should be constructed and its impact on the economy detailed.

The Forest needs to identify important eastside big game transition range areas, and reserve fall green-up after 30 September for big game use.

P. 4-29 9. Transportation/Facilities, B.

"Effective road density shall not exceed 2 miles per square mile." ODFW objective is 1.5 miles of open road per square mile of the roaded portion of the Forest. Road closures will be necessary in several important drainages in order to achieve this goal. See Recommendations.

P. 4-30 Footnote 1

"The on-the-ground location of winter range will be identified through use of field investigations." A determination and definition of winter range plus accompanying maps should be presented.

Footnote 2 (Paragraph 2)

"It is assumed the optimal thermal cover is provided in areas which prohibit timber harvesting...." ODFW recommends the following as a replacement for this statement: "It is assumed optimum thermal cover will be provided in areas that prohibit timber harvest, but these areas will not meet the distribution needs of optimum thermal cover for deer and elk."

P. 4-31 Transportation Systems...

There is no discussion of nor standards for implementing effective road and area closures.

P. 4-34 Timber Management

ODFW objects to emphasis on even-aged management.

P. 4-35 Timber Management

E. "Forest openings....shall normally not exceed 60 acres in Douglas fir forest types and 40 acres in other forest types. These acreages may be increased by not more than 50%...." While these are the upper limits of opening size, ODFW recommends openings average not more than 20 acres in size to better meet habitat diversity needs.

2. B. "A harvested area of commercial forest land should no longer be considered a created opening for silvicultural purposes when trees are 4.5 feet high...." In areas that are important for deer and elk, hiding cover needs to be the criteria for determining when a clearcut is no longer considered an opening. Conifer height criteria for deer would be six feet, and ten feet for elk.

P. 4-38 Protection Functions

5.C. State the standards for protection of snags and down wood habitats.

P. 4-44 Sensitivity Levels

A modification strategy is not consistent with the goal of management areas A8, A9, B4, B5, and B7.

P. 4-45 Range Management

2.A. What is the Forest's definition of "unacceptable resource damage", and how is it evaluated? (PP 4-45-1).

3.A. How will the Forest determine changes in vegetation or the forage component? (PP 4-45-2).

4.C. and 5.C. The Forest should compare these proposed standards with the requirements of the grazing permits.

The Forest needs more specific standards for fence construction that allow big game passage, wildlife use of water developments, and protection of seeps and springs.

P. 4-47 Lands Program

1.A. What is an "optimum" landownership pattern? (PP 4-47).

P. 4-58 Category B Management Areas

Sentence one is not correct, as B1 lands would have no chargeable harvest.

Category B restrictions would reduce timber harvest potential by one-third. In other words, these special management areas will be harvested at two-thirds the level as Category C lands. How can the Forest maintain the desired values of Category B lands with this level of harvest?

P. 4-60 The salvage guidelines need to apply to seral stages IV, V, and VI. Salvage harvest in Category B areas should maintain snag and downed woody habitat at the 100 percent of potential population level.

P. 4-62 b. Salvage Harvest in Category C Areas

3. "...avoid accumulation of wood debris [on streamsides] ...." Wood accumulation in most stream areas is beneficial. The amount of woody debris to be retained needs to be determined on a site-specific basis.

P. 4-168 15.C. Prescribed fire should not be used in this type during the turkey breeding and nesting period, March 1-June 15.

P. 4-169 8.5. Pileated Woodpecker

Based on recent work by Mellen (1987, M.S. Thesis, OSU) and Brown (1985), ODFW recommends the following changes to pileated woodpecker standards and guidelines:

A. Nesting and roosting habitat areas should be increased to 495 acres of mature/old-growth forest. Home ranges of individual pileated woodpeckers average 1,100 acres, and 500 acres represents the minimum amount of mature/old-growth found within the home range.

B. Potential nest trees should average 28 inches dbh (Mellen, 1987). Roost trees averaged 47 inch dbh in the study, thus indicating a preference for old growth.

C. Foraging habitat should be increased to at least 500 acres, with two snags/acre (17 inches or greater) to meet the needs of other primary cavity excavators.

D. Distribution of habitat areas are to be based on measurements from core center, according to regional MMR direction, not edge-to-edge as indicated in the DEIS.

P. 4-172 9. Timber Management

ODFW concurs with the proposed long-term rotations as long as old-growth habitat characteristics, such as down woody material and uneven age structure, are maintained.

P. 4-180 GENERAL RIPARIAN AREAS

ODFW supports the description, goal, management activities, and standards in this prescription. The "average width" concept under Description adds some management flexibility.

Goal: "To maintain or improve riparian habitat conditions for the sustained, long-term production of fish, selected wildlife and plant species, and high quality water for the full spectrum of the Forest's riparian areas." Which wildlife and plant species will habitat be improved for? (FP 4-180).

P. 4-183 6. Wildlife and 7. Fisheries, A - C

ODFW would encourage cooperative consultation on all general riparian areas subject to timber harvest.

P. 4-192 B9-WILDLIFE/VISUAL AREAS, Items 1-15

The Forest is to be commended for providing this important habitat component for wildlife. This area serves as a major big game summer area for animals associated with both the Hood and White River Wildlife Management Units.

6. Wildlife

6.A. To be consistent with the goal for this MA, forage areas should be 5-20 acres in size and occupy 15-20 percent of the area. Natural openings should be surrounded by thermal cover.

ODFW recommends dedication of 20 percent of the forage area in this MA be to an experimental fertilization program for big game.

6.B. "Seeding with quality forage species...if compatible with silvicultural objectives." The primary goal of this MA is for wildlife/visual values, not timber. If seeding of grass and shrubs is needed for wildlife or visual objectives, that need has priority over silvicultural objectives.

P. 4-196 Timber Emphasis Areas

Paragraph 4 States "Extensive road systems must be developed in these management areas to facilitate management." Paragraph 5 states "Forage within these management areas shall be available for use by livestock and wildlife." From the wildlife standpoint, the second statement is valid only if an effective road closure program is applied to the first statement.

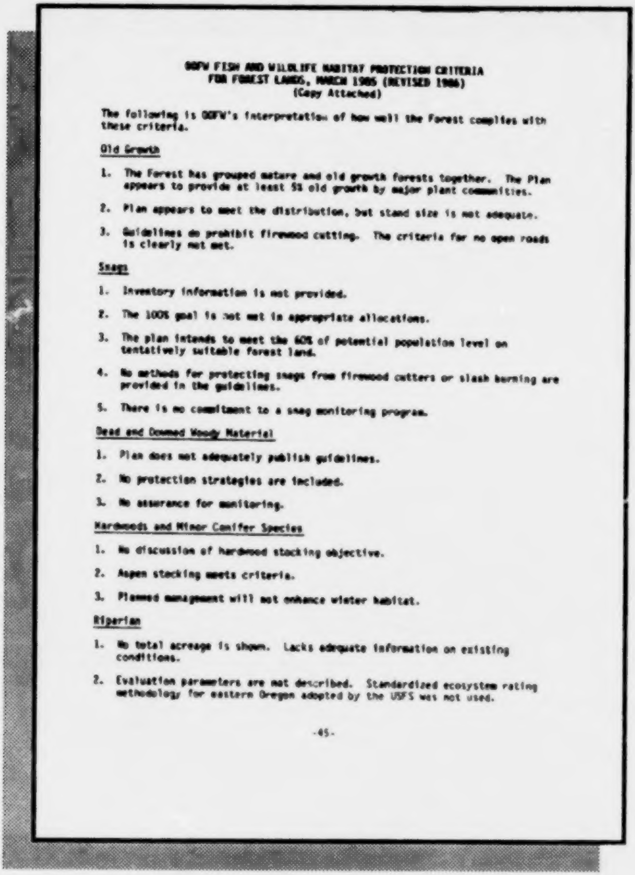
P. 4-198 TIMBER EMPHASIS AREAS:

6. C. "Meadows should be maintained if possible." This sentence should be changed to read, "Meadows shall be maintained." Meadows are an uncommon, yet very important, habitat component. They should always be protected and provided a sufficient buffer to allow undisturbed use by wildlife. When wet meadows are involved, additional buffer should be considered along with escape cover.

P. 4-200 9.I. The Forest needs to implement stocking level control before trees exceed five feet in height to extend forage life and minimize the physical barriers of down slash.

P. 4-204 Table Four-12

Based on present and past population trends and future forest habitat predictions, ODFW offers the following population estimates as a more realistic long-term trend for four of the MIS:



ODFW FISH AND WILDLIFE HABITAT PROTECTION CRITERIA FOR FOREST LANDS, MARCH 1985 (REVISED 1986)
(Copy Attached)

The following is ODFW's interpretation of how well the Forest complies with these criteria.

Old Growth

1. The Forest has grouped mature and old growth forests together. The Plan appears to provide at least 5% old growth by major plant communities.
2. Plan appears to meet the distribution, but stand size is not adequate.
3. Guidelines do prohibit firewood cutting. The criteria for no open roads is clearly not met.

Snags

1. Inventory information is not provided.
2. The 100% goal is not met in appropriate allocations.
3. The plan intends to meet the 60% of potential population level on tentatively suitable forest land.
4. No methods for protecting snags from firewood cutters or slash burning are provided in the guidelines.
5. There is no commitment to a snag monitoring program.

Dead and Downed Woody Material

1. Plan does not adequately publish guidelines.
2. No protection strategies are included.
3. No assurance for monitoring.

Hardwoods and Minor Conifer Species

1. No discussion of hardwood stocking objective.
2. Aspen stocking meets criteria.
3. Planned management will not enhance winter habitat.

Riparian

1. No total acreage is shown. Lacks adequate information on existing conditions.
2. Evaluation parameters are not described. Standardized ecosystem rating methodology for eastern Oregon adopted by the USFS was not used.

3. The goal is nebulous.

4. The Forest has no acceptable goal.

5. Not met. The Forest at 50 years is still planning slow improvement.

6. The riparian monitoring system is not adequate.

Meadows, Freshwater, Wetlands, Natural Openings

1. Inadequate protection of adjacent forest buffers.

2. and 3. Plan does not meet criteria.

4. Protection strategies not adequate.

5. Cannot be determined. No data is presented.

Cliffs, Rimrock, Caves, and Talus

These unique habitats are mentioned in Affected Environment, but there is no discussion about protection of these sites or the consequences of the various alternatives.

Aquatic Habitats

1. Plan falls short of expectations for improved conditions.

2. Expected changes by decade are displayed.

3. Baseline data is not presented, but a monitoring system is assured.

Instream Habitat

The riparian components of streamside conditions are seen as soft targets.

Water Quality

1. There is no directed effort to restore fisheries capability on 100 miles of perennial streams.

2. Monitoring is not assured.

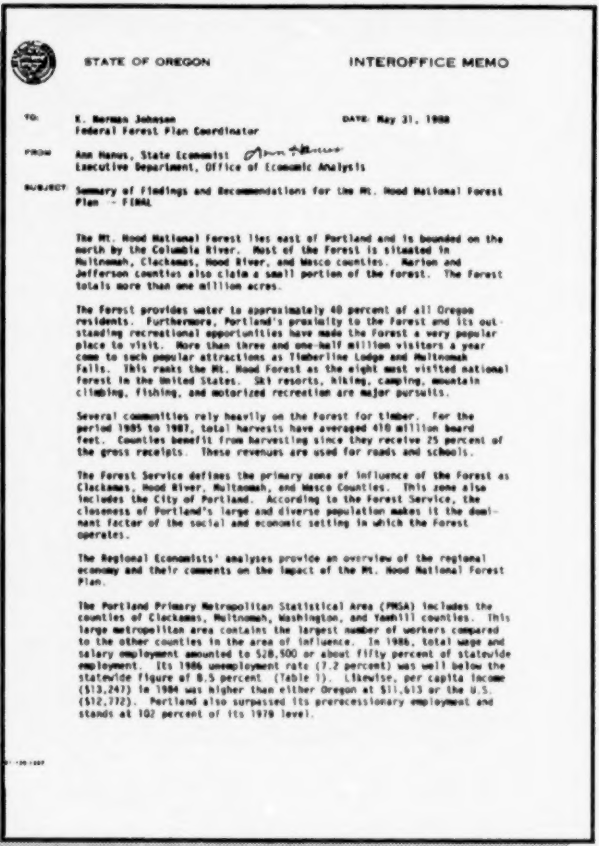
Elk and Deer Habitat

1. Only a minimal habitat condition will be provided on the majority of forested land. Forage/cover not addressed. Benchmarks are not addressed.

2. N/A.

3. Record keeping or monitoring unit size is not described.

4. Habitat conditions are not described among the parameters.



STATE OF OREGON

INTEROFFICE MEMO

TO: K. Norman Johnson
Federal Forest Plan Coordinator

DATE: May 31, 1988

FROM: Ann Hanus, State Economist Ann Hanus
Executive Department, Office of Economic Analysis

SUBJECT: Summary of Findings and Recommendations for the Mt. Hood National Forest Plan -- FINAL

The Mt. Hood National Forest lies east of Portland and is bounded on the north by the Columbia River. Most of the Forest is situated in Multnomah, Clackamas, Hood River, and Wasco counties. Marion and Jefferson counties also claim a small portion of the forest. The Forest totals more than one million acres.

The Forest provides water to approximately 40 percent of all Oregon residents. Furthermore, Portland's proximity to the Forest and its outstanding recreational opportunities have made the Forest a very popular place to visit. More than three and one-half million visitors a year come to such popular attractions as Timberline Lodge and Multnomah Falls. This ranks the Mt. Hood Forest as the eight most visited national forest in the United States. Ski resorts, hiking, camping, mountain climbing, fishing, and motorized recreation are major pursuits.

Several communities rely heavily on the Forest for timber. For the period 1985 to 1987, total harvests have averaged 410 million board feet. Counties benefit from harvesting since they receive 25 percent of the gross receipts. These revenues are used for roads and schools.

The Forest Service defines the primary zone of influence of the Forest as Clackamas, Hood River, Multnomah, and Wasco Counties. This zone also includes the City of Portland. According to the Forest Service, the closeness of Portland's large and diverse population makes it the dominant factor of the social and economic setting in which the Forest operates.

The Regional Economists' analyses provide an overview of the regional economy and their comments on the impact of the Mt. Hood National Forest Plan.

The Portland Primary Metropolitan Statistical Area (PMSA) includes the counties of Clackamas, Multnomah, Washington, and Yamhill counties. This large metropolitan area contains the largest number of workers compared to the other counties in the area of influence. In 1986, total wage and salary employment amounted to 528,500 or about fifty percent of statewide employment. Its 1986 unemployment rate (7.2 percent) was well below the statewide figure of 8.5 percent (Table 1). Likewise, per capita income ($13,247) in 1984 was higher than either Oregon at $11,613 or the U.S. ($12,772). Portland also surpassed its prerecessionary employment and stands at 102 percent of its 1979 level.

Table 1

ECONOMIC COMPARISON
NONAGRICULTURAL EMPLOYMENT BASED ON 1986
PERSONAL INCOME BASED ON 1984
POPULATION BASED ON JULY 1, 1987

	PORTLAND PMSA*		HOOD RIVER		WASCO		OREGON	
	AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL	AMOUNT	% OF TOTAL
MANUFACTURING	90,300	17.09%	1,080	19.42%	630	8.87%	196,700	18.62%
LUMBER & WOOD	7,900	8.75%	510	47.22%	220	34.92%	63,900	32.49%
OTHER MFG	82,400	91.25%	570	52.78%	410	65.08%	132,800	67.51%
NONMANUFACTURING	438,200	82.91%	4,480	80.58%	6,470	91.13%	859,800	81.38%
CONSTRUCTION	18,800	4.29%	140	3.13%	150	2.32%	34,100	3.97%
TRANS,COMM. & UTIL.	32,900	7.51%	510	11.43%	240	3.71%	57,000	6.63%
RET. & WH. TRADE	140,300	32.02%	1,500	33.36%	2,180	33.69%	268,100	31.18%
FIN.,INS. & R.E.	43,100	9.84%	130	2.92%	340	5.26%	69,600	8.09%
SERVICES	127,500	29.10%	1,300	29.29%	1,390	21.57%	230,300	26.77%
GOVERNMENT	75,100	17.14%	960	21.36%	1,970	30.45%	199,300	23.18%
OTHER	0	0.00%	0	0.00%	0	0.00%	1,300	0.15%
TOTAL	528,500	100.00%	5,560	100.00%	7,100	100.00%	1,056,500	100.00%
% of 1979 LEVEL	101.98%		95.71%		85.13%		100.02%	
1986 UNEMPL. RATE	7.2		13.6		14.2		8.5	

	PORTLAND PMSA*	HOOD RIVER	WASCO	OREGON
PERSONAL INCOME (1984)				
TOTAL (THOUSANDS)	15,004,677	183,663	292,431	31,055,024
PERCAPITA	13,247	11,198	11,847	$11,613
% TOTAL OREGON	114.07%	96.43%	102.01%	100.00%
% OF U.S.($12,772)	103.72%	87.68%	92.76%	90.93%
POPULATION (JULY 1987)	1,155,300	16,400	20,400	2,690,000
% CH since 1980	4.22%	4.20%	-4.10%	2.16%
% OF OREGON	42.96%	0.61%	0.76%	100.00%

*INCLUDES CLACKAMAS, MULTNOMAH, WASHINGTON & YAMHILL COUNTIES

[illegible]

The Regional Economist for Clackamas and Multnomah counties estimates that losses in these counties could amount to as many as 350 direct workers displaced. The Regional Economist for Hood River and Wasco counties estimates a loss of roughly 100 to 125 jobs in the lumber and wood products industry. The reductions would probably impact timber dependent communities outside of Portland most. Portland will feel some indirect and induced effects, however.

The harvest schedule is a departure from long-term sustained yield. Over time, the average annual projected total sale program quantity falls as shown in the table below:

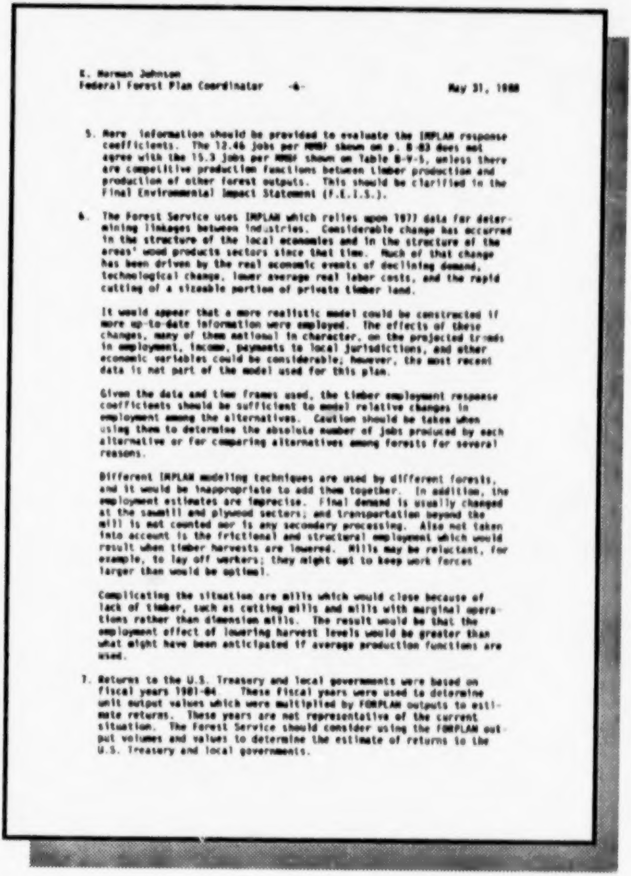
Average Annual Actual Harvest (1977-86)
and Projected Annual Harvest (TSPQ) for the
Next Five Decades
Mt. Hood National Forest
(Million Board Feet)

Period	Harvest
1977-86 actual harvest	326
First Decade (projected)	347
Second Decade	323
Third Decade	323
Fourth Decade	314
Fifth Decade	324

This stepping down of the harvest may ease the transition for timber dependent communities, but it also means that future generations will face a lower harvest from the Mt. Hood National Forest. Oregon State University's timber supply study (due to be released Summer 1988) will shed light on what the total supply from private and public lands will be and whether other ownerships or adjacent forests will cushion the drop.

3. The Forest Service should correct its narrative on the impact of their preferred Alternative E on p. IV-44 of the D.E.I.S. According to the D.E.I.S., "employment related to recreation would rise slightly along with employment in fisheries and range." This does not square with the data provided to me that details the impact by sector (see above). The text should be revised to portray accurately the economic impact of the proposed plan.

4. The statement on p. IV-42 that forest related employment is roughly seven percent of the total work force and that gains or losses in forest-related jobs would produce a minor impact is misleading. It appears that this seven percent refers only to direct employment. Adding in the nondirect employment would mean that a significantly larger percentage of the total work force is dependent upon the Mt. Hood National Forest.



5. More information should be provided to evaluate the IMPLAN response coefficients. The 12.46 jobs per MMBF shown on p. B-83 does not agree with the 15.3 jobs per MMBF shown on Table B-V-5, unless there are competitive production functions between timber production and production of other forest outputs. This should be clarified in the Final Environmental Impact Statement (F.E.I.S.).

6. The Forest Service uses IMPLAN which relies upon 1977 data for determining linkages between industries. Considerable change has occurred in the structure of the local economies and in the structure of the areas' wood products sectors since that time. Much of that change has been driven by the real economic events of declining demand, technological change, lower average real labor costs, and the rapid cutting of a sizeable portion of private timber land.

   It would appear that a more realistic model could be constructed if more up-to-date information were employed. The effects of these changes, many of them national in character, on the projected trends in employment, income, payments to local jurisdictions, and other economic variables could be considerable; however, the most recent data is not part of the model used for this plan.

   Given the data and time frames used, the timber employment response coefficients should be sufficient to model relative changes in employment among the alternatives. Caution should be taken when using them to determine the absolute number of jobs produced by each alternative or for comparing alternatives among forests for several reasons.

   Different IMPLAN modeling techniques are used by different forests, and it would be inappropriate to add them together. In addition, the employment estimates are imprecise. Final demand is usually changed at the sawmill and plywood sectors; and transportation beyond the mill is not counted nor is any secondary processing. Also not taken into account is the frictional and structural employment which would result when timber harvests are lowered. Mills may be reluctant, for example, to lay off workers; they might opt to keep work forces larger than would be optimal.

   Complicating the situation are mills which would close because of lack of timber, such as cutting mills and mills with marginal operations rather than dimension mills. The result would be that the employment effect of lowering harvest levels would be greater than what might have been anticipated if average production functions are used.

7. Returns to the U.S. Treasury and local governments were based on fiscal years 1981-84. These fiscal years were used to determine unit output values which were multiplied by FORPLAN outputs to estimate returns. These years are not representative of the current situation. The Forest Service should consider using the FORPLAN output volumes and values to determine the estimate of returns to the U.S. Treasury and local governments.

The Forest Service should address how its plan will affect proposed expansions of ski resorts and whether the Forest can accommodate such expansions. Also, speakers at the public meetings that the state held expressed concern about whether the plan would allow for the Winter Olympics. The plan should take these proposals into consideration.

19. More information should be provided on the economic impact of recreation. While much was written on recreation use according to the Recreation Opportunity Spectrum, little analysis was attempted to provide valuation numbers and to determine the economic impact of recreation. The Umpqua National Forest, for example, attempted to quantify the value of recreation. Since recreation is an important use and has a significant economic impact to communities, more analysis on this subject is warranted.

20. Statements on p. III-72 and III-73 regarding projected demand for recreation are contradictory. The D.E.I.S. states on p. III-72 that "although the Forest can meet overall demand for developed recreation during the next 15 years, it may already have a short supply of picnic sites around Multnomah Falls."

On the very next page, it states "The current use of most of the developed recreation sites on the Forest now equals or exceeds their practical recreation capacity. The continuing recreational use of the Forest's developed recreation sites at levels that equal or exceed their practical capacity and type of use the sites were designed for has caused deterioration, and rehabilitation of most developed sites has become necessary. Because current use of existing sites greatly exceeds practical capacity, the only realistic way to meet the demand is to rehabilitate and expand the existing developed sites or add new developed sites."

Which statement is correct? Can demand be met?

Figure III-12 also illustrates a general upward trend in annual skier visits (excluding low snow years). This indicates that demand for skiing is increasing. Will existing facilities meet demand?

The Forest Service is estimating the demand for recreation using a 1.5 percent annual increase (based on statewide population forecasts). Yet, elsewhere in the document they acknowledge that they are using a 3.2 percent annual increase for the zone of influence. Should not forecasts for the zone of influence take precedence? Since the Forest Service should have access to visitor counts for developed recreation, especially for ski resorts, this data should be used to develop recreation forecasts specific to the Mt. Hood National Forest.

The Forest Service does not allow prices to increase for recreation when making their projections. Yet, real price increases are built in their projections for timber. On the Mt. Hood National Forest where demand exceeds supply, it seems reasonable to expect that prices will rise.

The paragraph on p. B-54 of the Appendix to the D.E.I.S on priced outputs does not agree with how values were actually adjusted for recreation as detailed on p. B-68.

21. The Forest Service should explore and apply where appropriate and feasible, harvesting techniques that would minimize the impact on visual corridors. Such techniques might mean that visual quality could be preserved and enhanced in order to further tourism and minimize the impact on the timber industry.

22. The plan did not address the impact of the recent Columbia Gorge Legislation. The Forest Service should show how the management of this legislation will interact with their proposed plan.

23. Since the proposed ASQ is a significant reduction from the 1977-86 sales quantity and 1985-87 harvest levels, local governments will probably witness lower federal forest payments. County payments will probably be lower than Forest Service estimates unless prices rise considerably above Forest Service assumptions.

24. In addition to revealing the effect on county revenues, the Forest Service should also estimate the effects on timber harvest taxes, public road use fees and taxes, and property taxes. These revenues are important sources for local governments and schools.

25. The Forest Service will be releasing its final guidelines for the Spotted Owl in the near future. If these guidelines significantly change the land allocations and proposed management under the new plan, the regional economy will be affected.

26. The Forest Service should boost its monitoring of local economic conditions to include employment by sector and county, unemployment, population, and personal income.

ANN:ln
0263J

Attachments

cc: Fred Miller
Jon Yunker
Don Steward, Employment Division
Mike Staton, Employment Division
John Y. Stone, Employment Division
R. E. Koczek, Employment Division
Governor's Council of Economic Advisors

Department of Human Resources
EMPLOYMENT DIVISION
875 UNION STREET N.E., SALEM, OREGON 97311

April 22, 1988

IN REPLY
REFER TO:
RES:28H
R&S 2

TO: Ann Hanus, State Economist
Executive Department

FROM: B.R. Steward, Ass't Administrator
for Research & Statistics

SUBJECT: Mt. Hood National Forest Plan

The attached comments from John Stone, Regional Economist for the Portland PMSA, and Dick Kuczek, Regional Economist for North-Central Oregon, address the issues you identified earlier regarding the Mt. Hood National Forest Draft Plan. Please let me know if any revisions are necessary.

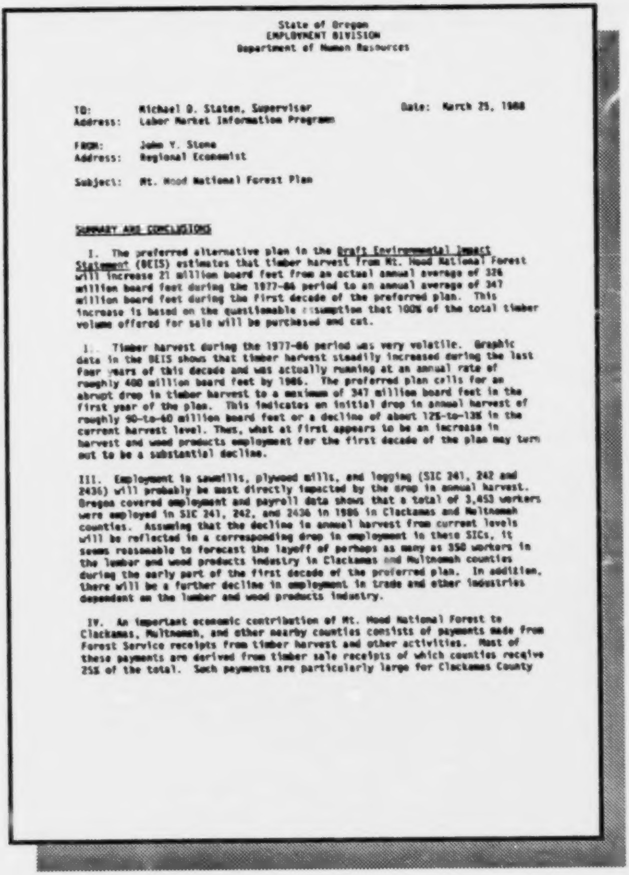
Attachments

BRS:krg

cc: Kuczek
Staten
Stone

0098A/5

AN EQUAL OPPORTUNITY EMPLOYER



State of Oregon
EMPLOYMENT DIVISION
Department of Human Resources

TO: Michael D. Staten, Supervisor Date: March 25, 1988
Address: Labor Market Information Program

FROM: John Y. Stone
Address: Regional Economist

Subject: Mt. Hood National Forest Plan

SUMMARY AND CONCLUSIONS

I. The preferred alternative plan in the Draft Environmental Impact Statement (DEIS) estimates that timber harvest from Mt. Hood National Forest will increase 21 million board feet from an actual annual average of 326 million board feet during the 1977-86 period to an annual average of 347 million board feet during the first decade of the preferred plan. This increase is based on the questionable assumption that 100% of the total timber volume offered for sale will be purchased and cut.

II. Timber harvest during the 1977-86 period was very volatile. Graphic data in the DEIS shows that timber harvest steadily increased during the last four years of this decade and was actually running at an annual rate of roughly 400 million board feet by 1986. The preferred plan calls for an abrupt drop in timber harvest to a maximum of 347 million board feet in the first year of the plan. This indicates an initial drop in annual harvest of roughly 50-to-60 million board feet or a decline of about 12%-to-13% in the current harvest level. Thus, what at first appears to be an increase in harvest and wood products employment for the first decade of the plan may turn out to be a substantial decline.

III. Employment in sawmills, plywood mills, and logging (SIC 241, 242 and 2436) will probably be most directly impacted by the drop in annual harvest. Oregon covered employment and payroll data shows that a total of 3,453 workers were employed in SIC 241, 242, and 2436 in 1986 in Clackamas and Multnomah counties. Assuming that the decline in annual harvest from current levels will be reflected in a corresponding drop in employment in these SICs, it seems reasonable to forecast the layoff of perhaps as many as 350 workers in the lumber and wood products industry in Clackamas and Multnomah counties during the early part of the first decade of the preferred plan. In addition, there will be a further decline in employment in trade and other industries dependent on the lumber and wood products industry.

IV. An important economic contribution of Mt. Hood National Forest to Clackamas, Multnomah, and other nearby counties consists of payments made from Forest Service receipts from timber harvest and other activities. Most of these payments are derived from timber sale receipts of which counties receive 25% of the total. Such payments are particularly large for Clackamas County

CLACKAMAS COUNTY COVERED EMPLOYMENT

	1986	1985	1984	1983	1982	1981	1980	1979	1978
Total Covered Employment	70,423	67,475	64,119	61,524	59,979	63,151	62,111	60,635	55,456
Manufacturing	14,279	13,857	13,451	13,277	12,784	14,440	15,031	14,750	13,086
Lumber & Wood Products	2,383	2,238	2,221	2,324	1,782	2,380	2,576	2,752	2,727
Nonmanufacturing	56,144	53,618	50,668	48,247	47,195	48,711	47,080	45,885	42,370
Construction	3,249	3,037	2,573	2,170	2,209	2,949	3,653	4,190	3,716
Trans., Comm., & Util.	2,313	2,347	2,080	2,135	1,953	1,914	1,906	1,710	1,505
Trade	21,805	20,698	19,834	18,412	18,074	18,273	16,841	16,347	14,922
FIRE	2,770	2,750	2,642	2,713	2,668	2,861	2,685	2,574	2,494
Services & Misc.*	15,135	13,530	12,617	11,813	11,216	11,296	10,879	10,409	9,374
Government	10,872	11,256	10,922	11,004	11,077	11,418	11,196	10,815	10,449

*Includes some Agriculture

MULTNOMAH COUNTY COVERED EMPLOYMENT

	1986	1985	1984	1983	1982	1981	1980	1979	1978
Total Covered Employment	326,733	319,584	314,584	301,186	305,985	325,256	334,785	335,468	323,987
Manufacturing	43,189	43,424	43,135	38,466	43,910	49,466	52,824	55,357	54,747
Lumber & Wood Products	2,726	2,514	2,445	2,021	2,639	3,287	3,324	3,391	3,753
Nonmanufacturing	283,544	276,160	271,449	262,720	262,075	275,790	281,961	280,111	269,240
Construction	9,795	9,612	9,170	8,106	9,123	11,187	13,203	14,309	13,572
Trans., Comm., & Util.	25,547	25,851	25,981	25,282	25,851	26,645	26,681	26,260	24,485
Trade	87,145	86,441	85,856	82,835	81,962	87,812	89,797	91,940	88,214
FIRE	29,022	28,324	27,774	27,641	28,239	29,380	29,496	28,788	27,101
Services & Misc.*	83,544	79,291	76,124	71,542	68,985	71,689	72,852	70,321	67,534
Government	48,305	47,401	46,734	46,314	46,915	49,166	50,732	48,904	48,334

*Includes some Agriculture

Clackamas County Covered Manufacturing
and Lumber & Wood Products Employment
1978-1986

Year	Total Manufacturing	Lbr. & Wood Products	% of Total
1978	13,086	2,727	20.8%
1979	14,750	2,752	18.7
1980	15,031	2,576	17.1
1981	14,440	2,300	15.9
1982	12,784	1,792	14.0
1983	13,277	2,324	17.5
1984	13,451	2,221	16.5
1985	13,857	2,238	16.2
1986	14,278	2,383	16.7

The lumber and wood products industry is far less important in relative terms in Multnomah County. Lumber and wood products employment in Multnomah County varied from a high of 6.9% (3,753) of all manufacturing employment in 1978 to a low of 5.1% (2,021) of all manufacturing employment in the county in 1983.

Multnomah County Covered Manufacturing
and Lumber & Wood Products Employment
1978-1986

Year	Total Manufacturing	Lbr. & Wood Products	% of Total
1978	54,347	3,753	6.9%
1979	55,357	3,581	6.5
1980	52,804	3,324	6.3
1981	49,466	3,267	6.6
1982	43,918	2,658	6.1
1983	39,466	2,021	5.1
1984	43,135	2,445	5.7
1985	43,424	2,514	5.8
1986	43,189	2,726	6.3

Lumber and wood products employment includes (1) logging camps engaged in cutting timber and pulpwood; (2) merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood mills and veneer mills engaged in producing lumber and wood basic materials; (3) and establishments engaged in manufacturing finished articles made entirely or mainly of wood or wood substitutes.

It can be presumed that employment in logging camps, sawmills and planing mills, and plywood and veneer mills is dependent to a considerable extent upon timber from Mt. Hood National Forest. It is true that timber can be brought to these mills from local private forests as well as national and private forests located at a considerable distance from local mills. However, it is likely that Mt. Hood Forest is a major factor in the timber supply of local mills in Clackamas and Multnomah counties.

A substantial portion of SIC 24, i.e., the lumber and wood products industry, is not necessarily dependent on timber from Mt. Hood National Forest. For example, mobile home construction and the production of barrels, kitchen cabinets, wood pallets and wood boxes are not necessarily dependent on local sources of timber. However, it can be presumed that sawmills, plywood mills, and logging are highly dependent on local supplies. This portion of the lumber and wood products industry includes SIC 241, 2421, 2426, 2429, and 2436. As the following table shows, these SIC's accounted for roughly two-thirds to 70% or slightly more of total employment in the lumber and wood products industry in Clackamas and Multnomah counties from 1983 through 1986.

Comparison of (1) SIC 24 and
(2) SIC 241, 242, and 2436
1983 through 1986

Year	SIC 24	SIC 241, 242 & 2436	% of SIC 24
1983	4,345	3,216	74.0%
1984	4,666	3,360	72.0
1985	4,752	3,336	70.2
1986	5,109	3,453	67.6

Although lumber and wood products employment makes up a significant portion of manufacturing employment, particularly in Clackamas County, it accounts for only a little more than 1% of all covered employment in Clackamas and Multnomah counties. The following table compares covered employment in lumber and wood products (SIC 24) in Clackamas and Multnomah counties with total covered employment in these two counties from 1978 through 1986. Even when all of SIC 24 is included, it is clear that lumber and wood products employment makes up a very small proportion of total covered employment in these two counties. The actual direct impact would probably be much smaller in view of the fact that much of SIC 24 would not necessarily be impacted by a reduction in the amount of timber cut from Mt. Hood National Forest.

Comparison of (1) Covered Employment
in Lumber & Wood Products with
(2) Total Covered Employment in
Clackamas and Multnomah Counties
1978 - 1986

Year	Covered Employment	Lbr. & Wood Products	% of Total
1978	379,443	6,480	1.7%
1979	396,103	6,343	1.6%
1980	396,876	5,900	1.5%
1981	388,407	5,567	1.4%
1982	365,972	4,451	1.2%
1983	362,110	4,345	1.2%
1984	378,703	4,666	1.2%
1985	387,059	4,752	1.2%
1986	397,156	5,109	1.3%

The DEIS preferred alternative for Mt. Hood National Forest projects a slight reduction in potential timber harvest from the Mt. Hood National Forest over the first few decades. However, the impact over the first decade of the plan appears to show some increase in average annual harvest and, presumably, employment. Data from the Mt. Hood National Forest Plan indicates that an annual average of 326 million board feet of timber were harvested from the forest during the decade from 1977 through 1986. (See page 3-3 of the LRMP). This harvest level was 85% of the average timber volume sold (384 MMBF) during the same 10 year period, a difference of nearly 60 MMBF. The potential increase in timber harvest from 326 MMBF (1977-86 average) to 347 MMBF (TSPQ in first decade of preferred alternative) assumes that 100% of the total timber volume offered for sale will be bought and harvested. Although this assumption seems unrealistic, it is true that over the 1984 through 1987 period, the harvest from the Mt. Hood National Forest has exceeded the total timber volume actually sold each year. The average harvest volume during this four year period (402 MMBF) was eight percent higher than the average volume sold (372 MMBF).

Average Annual Actual Harvest (1977-86)
and Projected Annual Harvest (TSPQ) for the
Next Five Decades from Mt. Hood
National Forest in Millions
of Board Feet

Period		Harvest
1977-86	(actual harvest)	326
First Decade	(projected)	347
Second Decade	"	323
Third Decade	"	323
Fourth Decade	"	314
Fifth Decade	"	324

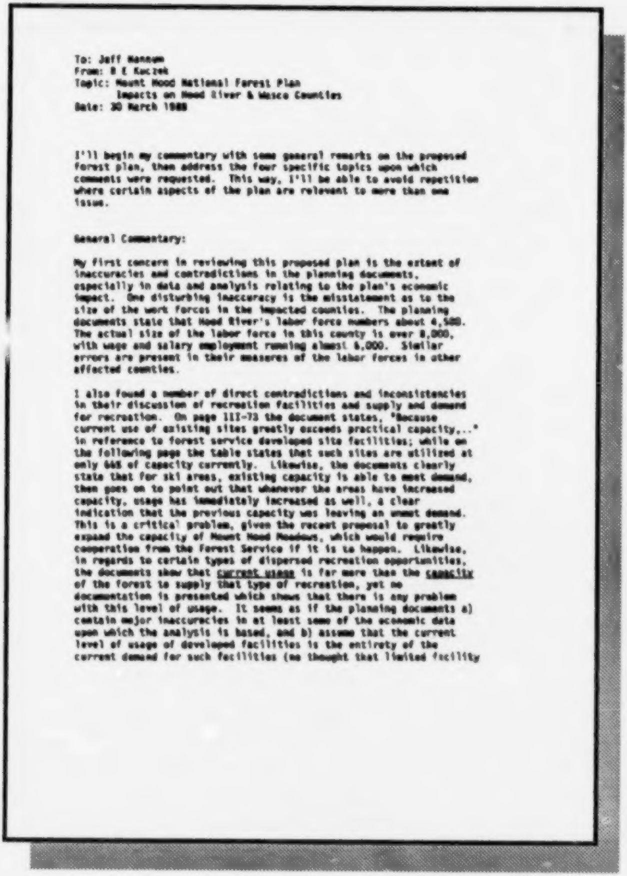
As the preceding table shows, the DEIS preferred alternative projects that the timber harvest from Mt. Hood National Forest could potentially increase by 21 million board feet from an actual annual average harvest of 326 million board feet for the 1977-86 decade to an annual average of 347 million board feet (TSPQ) for the first decade of the preferred plan. Another problem with this analysis is the fact that the 1977-86 decade was an extremely volatile period. Graphs in the DEIS show that the annual timber harvest in the Mt. Hood National Forest during the 1977-86 period reached its highest level during the last three or four years of the decade. In fact, the graphic data indicates that the annual harvest has steadily increased during the last three or four years of the period and was actually running at an annual average rate of roughly 400 million board feet or more by 1986 (see graph on page 52 of Chapter III of the Draft Environmental Impact Statement for Mt. Hood National Forest.

It is the understanding of this analyst that the preferred plan calls for an immediate drop in the annual timber harvest from Mt. Hood National Forest from the current level (414 MMBF in 1987) to the 347 million board feet annual average level (assuming 100% of 347 MMBF TSPQ is sold and harvested) that is projected for the first decade of the plan. This abrupt drop will occur during the first year of the plan.

The average incomes that were estimated for recreation and wood products workers seem somewhat high, even allowing for the inclusion of property income. Admittedly, it is difficult to determine what such incomes are, particularly in the case of recreation workers. However, data on covered employment and payrolls does provide a rough guide. In the case of SIC 24 (lumber and wood products as a whole), covered workers in this industry in Clackamas County had an annual average covered payroll of $23,185 in 1986 while similar workers in Multnomah County had an annual average covered payroll of $26,474 for the year.

Salaries of recreation workers are more difficult to analyze than is the case with workers in the lumber and wood products industry. However, it can be assumed that a substantial portion of all recreation workers will be employed in hotel/motel occupations or in eating and drinking establishments. In 1986, covered workers in SIC 70 (hotels and other lodging places) had an annual average covered payroll of $9,102 in Clackamas County and $9,090 in Multnomah County. A total of 4,250 workers were employed in hotels and other lodging places in these two counties in 1986. The relatively low annual average covered employment of workers in hotels and other lodging places is due to the fact that wages are low for most workers and employment is of a seasonal nature in many cases.

Covered workers in SIC 58 (eating and drinking places) had an annual average covered payroll of $5,978 in Clackamas County and $7,188 in Multnomah County in 1986. The low level of covered earnings of workers in eating and drinking places is due not only to low wages for most occupations in this industry but also to the fact that many workers obtain a substantial portion of their total earnings from tips that customers give them. In addition, workers frequently obtain meals which is a very real form of income but does not show up in covered payroll data. Thus, actual earnings of workers in eating and drinking places, particularly those working for wages, are generally much higher than covered payroll data would seem to indicate. A total of 26,819 covered workers were employed in eating and drinking places in Clackamas and Multnomah counties in 1986.



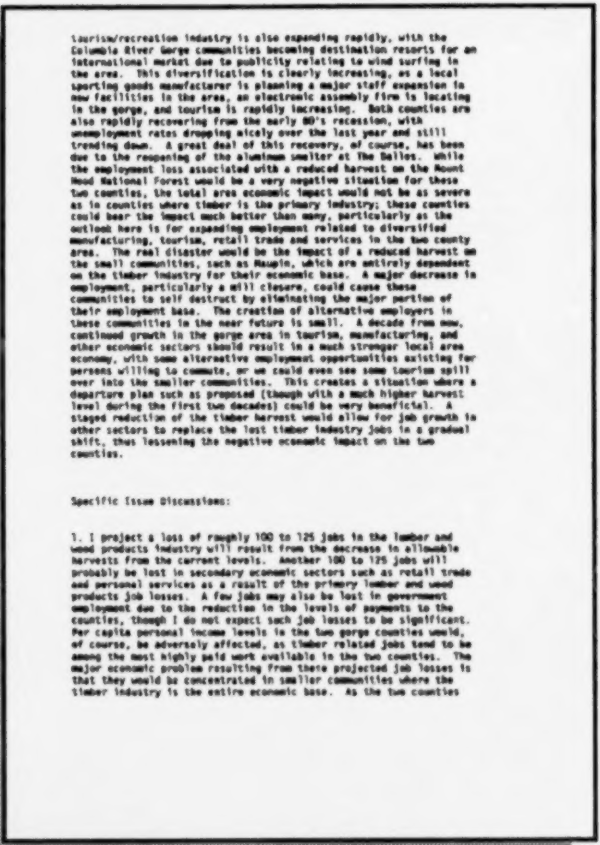
To: Jeff Hannum
From: B E Kuczek
Topic: Mount Hood National Forest Plan
Impacts on Hood River & Wasco Counties
Date: 30 March 1988

I'll begin my commentary with some general remarks on the proposed forest plan, then address the four specific topics upon which comments were requested. This way, I'll be able to avoid repetition where certain aspects of the plan are relevent to more than one issue.

General Commentary:

My first concern in reviewing this proposed plan is the extent of inaccuracies and contradictions in the planning documents, especially in data and analysis relating to the plan's economic impact. One disturbing inaccuracy is the misstatement as to the size of the work forces in the impacted counties. The planning documents state that Hood River's labor force numbers about 4,500. The actual size of the labor force in this county is over 8,000, with wage and salary employment running almost 6,000. Similar errors are present in their measures of the labor forces in other affected counties.

I also found a number of direct contradictions and inconsistencies in their discussion of recreation facilities and supply and demand for recreation. On page III-73 the document states, "Because current use of existing sites greatly exceeds practical capacity,..." in reference to forest service developed site facilities; while on the following page the table states that such sites are utilized at only 66% of capacity currently. Likewise, the documents clearly state that for ski areas, existing capacity is able to meet demand, then goes on to point out that whenever the areas have increased capacity, usage has immediately increased as well, a clear indication that the previous capacity was leaving an unmet demand. This is a critical problem, given the recent proposal to greatly expand the capacity of Mount Hood Meadows, which would require cooperation from the Forest Service if it is to happen. Likewise, in regards to certain types of dispersed recreation opportunities, the documents show that current usage is far more than the capacity of the forest to supply that type of recreation, yet no documentation is presented which shows that there is any problem with this level of usage. It seems as if the planning documents a) contain major inaccuracies in at least some of the economic data upon which the analysis is based, and b) assume that the current level of usage of developed facilities is the entirety of the current demand for such facilities (no thought that limited facility



tourism/recreation industry is also expanding rapidly, with the Columbia River Gorge communities becoming destination resorts for an international market due to publicity relating to wind surfing in the area. This diversification is clearly increasing, as a local sporting goods manufacturer is planning a major staff expansion in new facilities in the area, an electronic assembly firm is locating in the gorge, and tourism is rapidly increasing. Both counties are also rapidly recovering from the early 80's recession, with unemployment rates dropping nicely over the last year and still trending down. A great deal of this recovery, of course, has been due to the reopening of the aluminum smelter at The Dalles. While the employment loss associated with a reduced harvest on the Mount Hood National Forest would be a very negative situation for these two counties, the total area economic impact would not be as severe as in counties where timber is the primary industry; these counties could bear the impact much better than many, particularly as the outlook here is for expanding employment related to diversified manufacturing, tourism, retail trade and services in the two county area. The real disaster would be the impact of a reduced harvest on the small communities, such as Maupin, which are entirely dependent on the timber industry for their economic base. A major decrease in employment, particularly a mill closure, could cause these communities to self destruct by eliminating the major portion of their employment base. The creation of alternative employers in these communities in the near future is small. A decade from now, continued growth in the gorge area in tourism, manufacturing, and other economic sectors should result in a much stronger local area economy, with some alternative employment opportunities existing for persons willing to commute, or we could even see some tourism spill over into the smaller communities. This creates a situation where a departure plan such as proposed (though with a much higher harvest level during the first two decades) could be very beneficial. A staged reduction of the timber harvest would allow for job growth in other sectors to replace the lost timber industry jobs in a gradual shift, thus lessening the negative economic impact on the two counties.

Specific Issue Discussions:

1. I project a loss of roughly 100 to 125 jobs in the lumber and wood products industry will result from the decrease in allowable harvests from the current levels. Another 100 to 125 jobs will probably be lost in secondary economic sectors such as retail trade and personal services as a result of the primary lumber and wood products job losses. A few jobs may also be lost in government employment due to the reduction in the levels of payments to the counties, though I do not expect such job losses to be significant. Per capita personal income levels in the two gorge counties would, of course, be adversely affected, as timber related jobs tend to be among the most highly paid work available in the two counties. The major economic problem resulting from these projected job losses is that they would be concentrated in smaller communities where the timber industry is the entire economic base. As the two counties

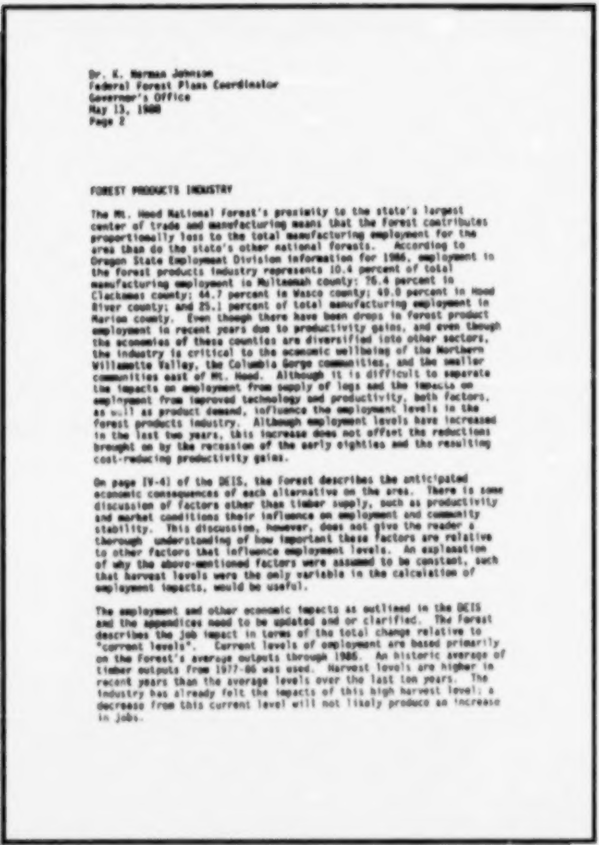
are currently experiencing an economic recovery/expansion, and prospects are good that this expansion/diversification will continue, a reasonable departure schedule could do much to ease the negative economic impact, by allowing the local economy enough time to generate new jobs in other industries to replace the jobs lost from the reduced timber harvest.

2. The proposed harvest schedule will not meet the supply needs of the mills. While a fair amount of the timber used by local area mills does not come from the Mount Hood National Forest, reduced harvests on other national forests will eliminate the possibility of replacing the lost harvest with timber from other areas, and result in increased competition for the timber supply remaining. One company has already gone on record as stating that the harvest reduction being proposed will probably force it to close one of its mills in the area. On a positive note, Hood River County has about 30,000 acres of county forest, where the timber harvest could be increased (I do not know to what extent) to make up for some of the lost national forest harvest. What this would mean in terms of the long range impact on the county forest, its future sustainable harvest levels, scenic quality, etc., I do not know, but such factors should be examined in detail and such secondary impact be included in the analysis of the forest plan's impact. It makes little sense to 'save' one forest from logging if the result will be the destruction, through over logging, of another.

3. The reduced harvest allowed will result in a reduction in county revenues. I do not expect this to be a major impact on either Wasco or Hood River Counties, though the loss to road maintenance funds and school support will clearly require careful budget juggling and some sacrifice on the parts of both Hood River and Wasco Counties.

4. As stated above, I believe that the analysis contained in the planning documents as to recreational demand and capacity is clearly flawed. Both developed and dispersed recreation are important job/revenue generators in these two counties. I do not believe that the planning documents are accurately assessing the demand for developed recreation, particularly skiing. Nor do the planning documents take into account the impact of recently passed legislation to protect the gorge as a scenic area, and how this legislation will interact with the forest plan proposals. This makes it very difficult to come to any meaningful conclusions as to how the plan will actually impact recreational opportunities and the recreation/tourism industry. One point worth making is that much of the recent growth of these industries in Hood River and Wasco Counties has been river-oriented, not forest-oriented.

This orientation may change somewhat, however, as Mount Hood Meadows has recently proposed a major expansion of its facilities, as well as announcing that it would try to orient more of its impact and



Dr. K. Norman Johnson
Federal Forest Plans Coordinator
Governor's Office
May 13, 1988
Page 2

FOREST PRODUCTS INDUSTRY

The Mt. Hood National Forest's proximity to the state's largest center of trade and manufacturing means that the Forest contributes proportionally less to the total manufacturing employment for the area than do the state's other national forests. According to Oregon State Employment Division information for 1986, employment in the forest products industry represents 10.4 percent of total manufacturing employment in Multnomah county; 76.4 percent in Clackamas county; 44.7 percent in Wasco county; 49.0 percent in Hood River county; and 25.1 percent of total manufacturing employment in Marion county. Even though there have been drops in forest product employment in recent years due to productivity gains, and even though the economies of these counties are diversified into other sectors, the industry is critical to the economic wellbeing of the Northern Willamette Valley, the Columbia Gorge communities, and the smaller communities east of Mt. Hood. Although it is difficult to separate the impacts on employment from supply of logs and the impacts on employment from improved technology and productivity, both factors, as well as product demand, influence the employment levels in the forest products industry. Although employment levels have increased in the last two years, this increase does not offset the reductions brought on by the recession of the early eighties and the resulting cost-reducing productivity gains.

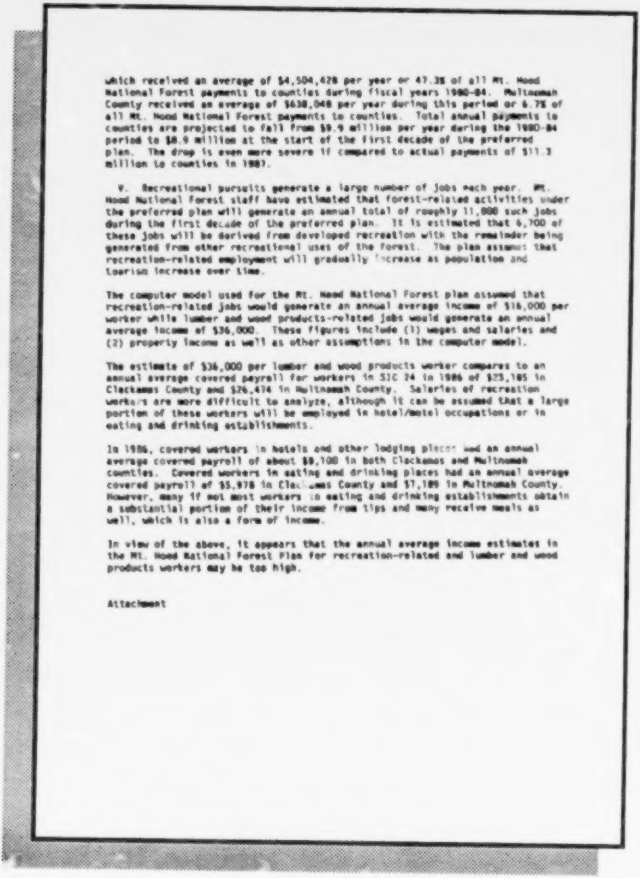
On page IV-41 of the DEIS, the Forest describes the anticipated economic consequences of each alternative on the area. There is some discussion of factors other than timber supply, such as productivity and market conditions their influence on employment and community stability. This discussion, however, does not give the reader a thorough understanding of how important these factors are relative to other factors that influence employment levels. An explanation of why the above-mentioned factors were assumed to be constant, such that harvest levels were the only variable in the calculation of employment impacts, would be useful.

The employment and other economic impacts as outlined in the DEIS and the appendices need to be updated and or clarified. The Forest describes the job impact in terms of the total change relative to "current levels". Current levels of employment are based primarily on the Forest's average outputs through 1986. An historic average of timber outputs from 1977-86 was used. Harvest levels are higher in recent years than the average levels over the last ten years. The industry has already felt the impacts of this high harvest level; a decrease from this current level will not likely produce an increase in jobs.

While the Forest correctly describes the basis for its analysis, a full discussion of the actual situation-and not just the results of their theoretical impacts would be useful for purposes informing the public. The most recent employment information should be incorporated into the Final Environmental Impact Statement (FEIS).

Also, there are some apparent inconsistencies in the documents as to what the predicted employment impacts are. The change in employment relative to the base level identified on page IV-41 of the DEIS for the preferred alternative is portrayed as an increase of approximately 250 jobs. Table FOUR-12 in the LRMP shows the job impact of the preferred alternative to be a decline of 521 jobs. At B-83 of the appendices there is a third scenario: "If an alternative proposed to change this [annual sawtimber volume] by 100 mmbf, a potential change of 1,246 jobs...could be realized in the local economy after all direct, indirect, and any induced effects are accounted for." The preferred alternative anticipates a decrease from the historical volume of green sawtimber of 320 mmbf to an annual ASQ of green sawtimber of 255 mmbf for the first decade, a 65 mmbf change. Yet, table 6 in the Reviewer's Guide indicates an increase in employment of 200 jobs. Is there a big increase in recreation-based employment anticipated? What portion of which of the above-cited job numbers does that represent? What is the number the public should be using when trying to determine the potential job impact for forest products related employment? OEDD urges the Forest to clarify these issues in the FEIS.

Other forest plans have included a chart depicting log flows and processing points in the economic zone of influence for the forest. In recent years log purchasers have been buying timber from locations farther from the processing points as transportation costs have become less determinative in purchasing decisions. OEDD asks that current information of this nature be portrayed so that the impacts on the timber dependent communities in the area may more easily be ascertained.



which received an average of $4,504,428 per year or 47.3% of all Mt. Hood National Forest payments to counties during fiscal years 1980-84. Multnomah County received an average of $638,048 per year during this period or 6.7% of all Mt. Hood National Forest payments to counties. Total annual payments to counties are projected to fall from $9.9 million per year during the 1980-84 period to $8.9 million at the start of the first decade of the preferred plan. The drop is even more severe if compared to actual payments of $11.3 million to counties in 1987.

V. Recreational pursuits generate a large number of jobs each year. Mt. Hood National Forest staff have estimated that forest-related activities under the preferred plan will generate an annual total of roughly 11,000 such jobs during the first decade of the preferred plan. It is estimated that 6,700 of these jobs will be derived from developed recreation with the remainder being generated from other recreational uses of the forest. The plan assumes that recreation-related employment will gradually increase as population and tourism increase over time.

The computer model used for the Mt. Hood National Forest plan assumed that recreation-related jobs would generate an annual average income of $16,000 per worker while lumber and wood products-related jobs would generate an annual average income of $36,000. These figures include (1) wages and salaries and (2) property income as well as other assumptions in the computer model.

The estimate of $36,000 per lumber and wood products worker compares to an annual average covered payroll for workers in SIC 24 in 1986 of $23,185 in Clackamas County and $26,474 in Multnomah County. Salaries of recreation workers are more difficult to analyze, although it can be assumed that a large portion of these workers will be employed in hotel/motel occupations or in eating and drinking establishments.

In 1986, covered workers in hotels and other lodging places had an annual average covered payroll of about $8,100 in both Clackamas and Multnomah counties. Covered workers in eating and drinking places had an annual average covered payroll of $5,978 in Clackamas County and $7,189 in Multnomah County. However, many if not most workers in eating and drinking establishments obtain a substantial portion of their income from tips and many receive meals as well, which is also a form of income.

In view of the above, it appears that the annual average income estimates in the Mt. Hood National Forest Plan for recreation-related and lumber and wood products workers may be too high.

Attachment

The Portland labor market consists of four counties because of the commuting patterns that exist in the area. In general, there is a large inflow of commuters to jobs in the City of Portland from surrounding communities and counties. There is a smaller daily flow of workers from Portland to the surrounding area. Thus, one cannot judge the impact of alternative plans for the Mt. Hood National Forest solely on the basis of the number of people who live and/or work in Clackamas or Multnomah counties or even on the basis of those who live and/or work in such wood products-dependent communities as Molalla and Estacada.

Many of the residents of such communities as Estacada and Molalla in Clackamas County actually work in non-wood related industries elsewhere, often at a considerable distance from their homes. Likewise, many people who work in the wood products industries in Molalla and Estacada commute to their jobs from elsewhere in the Portland labor market. Thus, the impact of changes in the number of wood products jobs in towns such as Molalla and Estacada is much different than is the case with towns such as Maupin, Tygh Valley, Wamic, and Pine Grove which are east of Mt. Hood National Forest and offer few alternative types of employment within a reasonable commuting distance.

The two following tables provide a breakdown of covered employment by major industry in Clackamas and Multnomah counties from 1978 through 1986. The tables clearly show the enormous impact of the recession in the early part of the decade. The recession forced total covered employment down in both counties, although the impact was particularly pronounced in Multnomah County.

Multnomah County's nonmanufacturing employment dropped 20,241 from a high of 281,961 in 1980 to a low of 261,720 in 1983 but had recovered to 283,544 by 1986. Covered nonmanufacturing employment in Clackamas County dropped 1,516 from a high of 48,711 in 1981 to a low of 47,195 in 1982 but then climbed steadily to a level of 56,144 by 1986. Nonmanufacturing employment in Clackamas County showed much less fluctuation than was the case in Multnomah County.

Manufacturing employment took much of the brunt of the recession. Total covered manufacturing employment in Multnomah County dropped 15,891 from a pre-recession high of 55,357 in 1979 to a low of 39,466 in 1983 and had recovered only moderately to a level of 43,189 by 1986. Clackamas County's covered manufacturing employment fell 2,247 from a high of 15,031 in 1980 to a low of 12,784 in 1982 and had increased to only 14,279 by 1986.

The next two tables in this section compare total employment in Standard Industrial Classification (SIC) 24 (lumber and wood products except furniture) with total manufacturing employment in Clackamas and Multnomah counties. As the following table shows, the lumber and wood products industry constitutes a major portion of all manufacturing employment in Clackamas County. Employment in this industry varied from a high of 20.8% (2,727) of all manufacturing employment in 1978 to a low of 14.0% (1,792) in 1982. Such employment was a substantial 16.7% (2,383) of all of Clackamas County's manufacturing employment in 1986.

MT. HOOD NATIONAL FOREST PLAN

The Mt. Hood National Forest lies within the boundaries of Clackamas, Hood River, Multnomah, and Wasco counties. The two most important counties of this group, in terms of population and economic activity, are Clackamas and Multnomah counties. The latter two counties along with Washington and Yamhill counties make up the Portland PMSA (Primary Metropolitan Statistical Area). The Portland PMSA labor market had an estimated total population of 1,155,500 in mid-1987. Multnomah County (562,000) had the largest population of any county in the Portland PMSA while Clackamas County's population amounted to 255,100.

Washington County had a population of 280,000 and another 58,400 people lived in Yamhill County. Clark County, Washington, with an estimated population of 209,000 in mid-1987, should also be included in the population base when considering the recreational and other demands placed on Mt. Hood National Forest. This is particularly true since the completion of the I-205 highway link which gives Clark County residents easy access to Mt. Hood National Forest.

Portland PMSA & Clark County
Population Estimates for 1986 & 1987

County	1986	1987
Clackamas	248,200	255,100
Multnomah	566,200	562,000
Washington	273,300	280,000
Yamhill	57,100	58,400
Portland PMSA	1,144,800	1,155,500
Clark County	205,000	209,900
TOTAL	1,349,800	1,365,400

The economy of the Portland PMSA is both large and highly diversified. Most of the area's population live in an urban setting, although agriculture is also an important part of the economy. Oregon covered employment data provides the only detailed information available on employment by industry for the various counties of the Portland PMSA. This data includes all employment and payrolls covered by Oregon Unemployment Insurance (UI) law and by the program for Unemployment Compensation of Federal Employees (UCFE). Covered employment data closely approximates trends in nonfarm wage and salary employment for the Portland PMSA.

The Draft Environmental Impact Statement (DEIS) for Mt. Hood National Forest (Chapter III, page 42) notes that the four-county area which contains Mt. Hood National Forest had a total area work force of 263,481 in 1984. The study indicated that an overwhelming proportion of this workforce was accounted for by Multnomah County (206,326) and Clackamas County (44,963). However, Oregon covered employment data shows that the latter estimates greatly understate the actual size of the 1984 workforce in the four counties which contain Mt. Hood National Forest. This is particularly true in the case of Clackamas and

Multnomah counties. Furthermore, it should be recognized that covered employment represents only about 90% of the total employment in these counties as it does not include self-employed and unpaid family workers as well as most domestic workers.

Oregon covered employment data for 1984 shows that Multnomah County actually had an average monthly employment of 314,584 in 1984 or half again as much as 206,326 estimate shown by the DEIS. Multnomah County had an annual average of 326,733 covered workers in 1986, the latest year for which such data is available. Clackamas County's average covered employment amounted to 64,119 in 1984 versus the 44,963 total estimated by the DEIS for that year. By 1986, Clackamas County's average covered employment had increased to 70,423.

Influence Area Workforce in 1984

County	DEIS Estimate	Oregon Covered Employment
Multnomah	206,326	314,584
Clackamas	44,963	64,119
Wasco	6,846	7,428
Hood River	5,356	6,322
Total	263,491	392,453

As the preceding table shows, the DEIS estimate of the workforce in the "influence area" is 128,962 or approximately one-third less than the actual covered employment of these four counties in 1984. As noted earlier, it should be recognized that Oregon covered employment data for Clackamas and Multnomah probably constitutes no more than 90% of the total employment of these two counties.

Far more important than any understatement of employment in Clackamas and Multnomah counties is the question of what the proper definition of the impact area of Mt. Hood National Forest should actually be. The Portland PMSA or "labor market" is defined as consisting of four counties (namely, Clackamas, Multnomah, Washington, and Yamhill counties), with the City of Portland being the central city and core area. Clark County, Washington, i.e, the Vancouver, Washington PMSA, is obviously also an integral part of the Portland labor market and is considered as such for many purposes.

The reason that labor market definition is so important is that much of the discussion concerning the various alternative plans in the DEIS for Mt. Hood National Forest hinges on a determination of the "influence area work force and income". The DEIS has defined the "influence area" for Mt. Hood National Forest very narrowly. Not only is there a substantial understatement of the size of the actual workforce in Clackamas and Multnomah counties, but it can be argued that the influence area and work force is actually much larger in view of the transportation network.

Thus, instead of the supposed increase in harvest that would appear to take place during the first decade of the plan as compared with the 1977-86 period, it appears that there will actually be a substantial drop in harvest from an annual average of 400 million board feet or more in 1986 and 1987 to no more than 367 million board feet for the first year of the preferred plan. Of course, this assumes that the annual timber harvest will remain at about the 1986-87 level until the preferred plan for Mt. Hood National Forest goes into operation. If the annual timber harvest declines somewhat, then the amount of change would be less.

If one assumes that the annual timber harvest will remain at about the 1986 level until the preferred plan goes into operation, then there will be an immediate drop in annual harvest of roughly 50-to-60 million board feet during the first year of the plan. This would represent a decline of 12%-to-13% or more in the annual harvest, based on the 1986 level.

Unless underlying conditions and assumptions change substantially, there seems to be little question but that timber-harvest related employment, timber supply, and county revenues will all have to decline somewhat from the levels that have prevailed in recent years. As noted earlier, a total of 3,453 workers were employed in Clackamas and Multnomah counties in SIC 241, 242, and 2436 in 1986, the areas most likely to be directly impacted by a reduction in Mt. Hood timber harvest. If it is assumed that perhaps 10% of total industry employment of 3,453 in Clackamas and Multnomah counties in 1986 would lose their jobs as a result of the reduction, this would indicate that perhaps as many as 350 workers could be directly displaced, all other things being equal. In addition, there would be further indirect loss of jobs in trade and other industries as a result of the reduction in lumber and wood products employment.

Clackamas County contains 47.3 percent of Mt. Hood National Forest and would take much of the brunt of any reduction in timber harvest. Certainly, this would be true of county-derived revenue from the Forest. Between 1980 and 1984, Clackamas county received an average of $4.5 million out of total annual payments of $9,865,935 from Mt. Hood National Forest to Clackamas, Hood River, Wasco, Multnomah, Marion, and Jefferson counties. The DEIS estimates that total annual payments by Mt. Hood to counties will decline to a level of $8.9 million per year at the start of the first decade under the preferred plan. This compares to total actual payments to these counties of $11.3 million in 1987, according to data provided by Mt. Hood National Forest headquarters.

Indeed, one of the most important economic contributions of Mt. Hood National Forest to the counties in the influence area is payments made to these counties from Forest Service receipts from timber harvest and a variety of activities such as grazing, recreation and other permits, mineral leasing, and sale of rock. Counties receive 25% of these receipts. Timber sale receipts provide almost all of the payments to counties by the Mt. Hood National Forest. The amount of payment received by individual counties is based on the percent of the National Forest that lies within the county.

Average Payments to Counties from Mt.
Hood National Forest Receipts for
Fiscal Years 1980-84

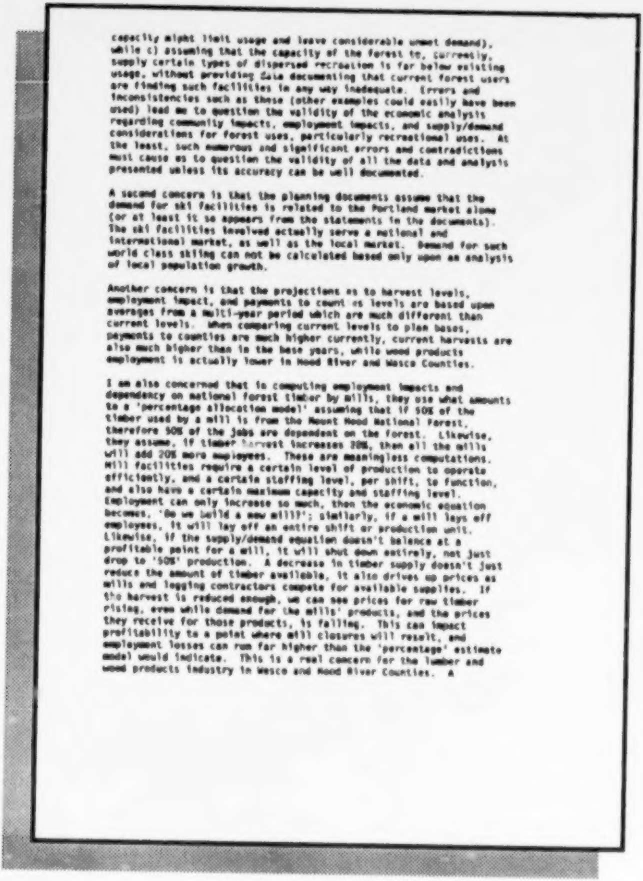
County	Annual Payment	Percent
Clackamas	$4,504,428	47.3%
Hood River	1,885,574	19.8
Wasco	1,047,482	10.4
Multnomah	638,048	6.7
Marion	609,479	6.4
Jefferson	380,924	9.4
Total	$9,065,935	100.0%

One of the major uses of Mt. Hood National Forest is recreation. Not only does Mt. Hood National Forest provide recreation to the large population that resides within a short distance of the forest, but it also attracts thousands of tourists each year. As the DEIS notes in Chapter II, page 51, "The Mt. Hood National Forest is the eighth most visited national forest in the United States. It is the most visited forest in the State of Oregon. Multnomah Falls, located within ten minutes walking distance from Interstate Highway 84 in the Columbia River Gorge National Scenic Area, is visited by upwards of two million people a year. Timberline Lodge, a national historic landmark in a year-round skiing area, is visited more than one million times per year." In addition, thousands of people visit other parts of the forest each year for a variety of purposes.

Recreational pursuits obviously generate a large number of jobs each year. Although it is difficult to determine the total number of jobs that are generated by such activities, Mt. Hood National Forest staff have estimated that forest-related recreation activities will generate an annual total of about 11,000 such jobs each year during the first decade of the preferred alternative plan.. It was estimated that about 6,700 of these jobs would be derived from developed recreation with the remainder being generated from other recreational uses of the forest. The plan assumes that recreation-related employment will gradually increase as population and tourism increase over time.

The computer model used for the Mt. Hood National Forest plan estimated that recreation-related jobs would generate an annual average income of $16,000 per worker while lumber and wood products-related jobs would generate an annual average income of about $36,000 per worker. Thus, the model estimated that each wood products-related job would generate over twice as much income as does each recreation-related job.

The $16,000 and $36,000 figures quoted above include both (1) wages and salaries and (2) so-called "property" income. The property income plus assumptions made in the computer model account for the relatively high incomes estimated for recreation and wood products workers.



capacity might limit usage and leave considerable unmet demand), while c) assuming that the capacity of the forest to, currently, supply certain types of dispersed recreation is far below existing usage, without providing data documenting that current forest users are finding such facilities in any way inadequate. Errors and inconsistencies such as these (other examples could easily have been used) lead me to question the validity of the economic analysis regarding community impacts, employment impacts, and supply/demand considerations for forest uses, particularly recreational uses. At the least, such numerous and significant errors and contradictions must cause us to question the validity of all the data and analysis presented unless its accuracy can be well documented.

A second concern is that the planning documents assume that the demand for ski facilities is related to the Portland market alone (or at least it so appears from the statements in the documents). The ski facilities involved actually serve a national and international market, as well as the local market. Demand for such world class skiing can not be calculated based only upon an analysis of local population growth.

Another concern is that the projections as to harvest levels, employment impact, and payments to counties levels are based upon averages from a multi-year period which are much different than current levels. When comparing current levels to plan bases, payments to counties are much higher currently, current harvests are also much higher than in the base years, while wood products employment is actually lower in Hood River and Wasco Counties.

I am also concerned that in computing employment impacts and dependency on national forest timber by mills, they use what amounts to a 'percentage allocation model' assuming that if 50% of the timber used by a mill is from the Mount Hood National Forest, therefore 50% of the jobs are dependent on the forest. Likewise, they assume, if timber harvest increases 20%, then all the mills will add 20% more employees. These are meaningless computations. Mill facilities require a certain level of production to operate efficiently, and a certain staffing level, per shift, to function, and also have a certain maximum capacity and staffing level. Employment can only increase so much, then the economic equation becomes, 'Do we build a new mill?'; similarly, if a mill lays off employees, it will lay off an entire shift or production unit. Likewise, if the supply/demand equation doesn't balance at a profitable point for a mill, it will shut down entirely, not just drop to '50%' production. A decrease in timber supply doesn't just reduce the amount of timber available, it also drives up prices as mills and logging contractors compete for available supplies. If the harvest is reduced enough, we can see prices for raw timber rising, even while demand for the mills' products, and the prices they receive for those products, is falling. This can impact profitability to a point where mill closures will result, and employment losses can run far higher than the 'percentage' estimate model would indicate. This is a real concern for the lumber and wood products industry in Wasco and Hood River Counties. A significant decline in national forest timber sales levels will tend to increase, or at least maintain, current raw materials prices while a falling housing market (unless there is increasing demand in other markets) will reduce the demand for and prices of mill output. This type of profitability squeeze can be devastating. The very significant reduction in harvest from current levels could produce a situation where a mill closure plus lay offs in other facilities and from logging concerns could result in the direct loss of as many as 100 to 125 lumber and wood products jobs in Wasco and Hood River counties almost immediately upon the proposed plan being implemented. This would also cause considerable secondary loss of employment, at least equaling the direct loss.

A final concern I have relates to the proportion of total forest land which is considered to lie in a 'viewshed', plus the commitment to emphasize clear cutting and even-age management practices. A careful reading of the document will show that 51% of total forest land is considered to lie within a viewshed which requires protection from logging to maintain its scenic attractiveness. While much of these viewsheds is protected by wilderness status, etc, almost 10% of total forest land (an acreage equal to almost 20% of all land considered 'suitable' for timber harvesting at some level of intensity under most of the alternative plans) is explicitly protected as viewsheds. This, obviously, has a tremendous impact upon allowable harvest levels. Reserving over half of all the forest's total acreage as 'viewshed' is incredible. This is far in excess of the amounts of land considered as viewsheds in the three other forest plans I have reviewed. This is particularly a problem as the proposed harvest/management methods are those which are the most destructive of visual quality, therefore, there is to be virtually no logging on these viewsheds. Other harvest/management methods (selective cutting/uneven-aged management) would have a much lesser effect on visual quality, and could, possibly, allow considerable logging activity even in areas that needed to be protected as viewsheds, especially mid-ground viewsheds. I would strongly urge that the Mount Hood National Forest be asked to justify declaring 51% of the total forest acreage as viewsheds, eliminating virtually all logging on nearly 10% of all forest lands to protect viewsheds explicitly, and also to consider the allowing of a reasonable level of selective cutting and uneven aged management on viewsheds, particularly mid-ground viewsheds.

General Comments on the Hood River/Wasco Counties economies:

While lumber and wood products are an important component of the counties' economy, the dependence of these two counties on this industry has lessened somewhat in recent years, as considerable employment losses have already occurred in these industries. The two counties also have a much more diversified economy than the planning documents indicate, with diversified manufacturing, telecommunications, etc. being important economic sectors. The access, etc. towards the gorge counties as opposed to Portland. The announced development plan for the Meadows would expand capacity to 17,500 skiers per day (virtually double the current capacity), develop 1,000 housing units, and develop a world class hotel with 400 to 500 rooms. This development would have a major impact on the area's economy. But for any portion of the planned expansion to take place, the forest service would be needed to cooperate with the resort, particularly in designating additional acreage as a primary winter recreation area. It is impossible to tell from the planning documents if this could be done under the proposed plan. I would strongly urge that the forest service be required to respond, in detail, as to how the proposed plan would impact this development proposal by Mount Hood Meadows.

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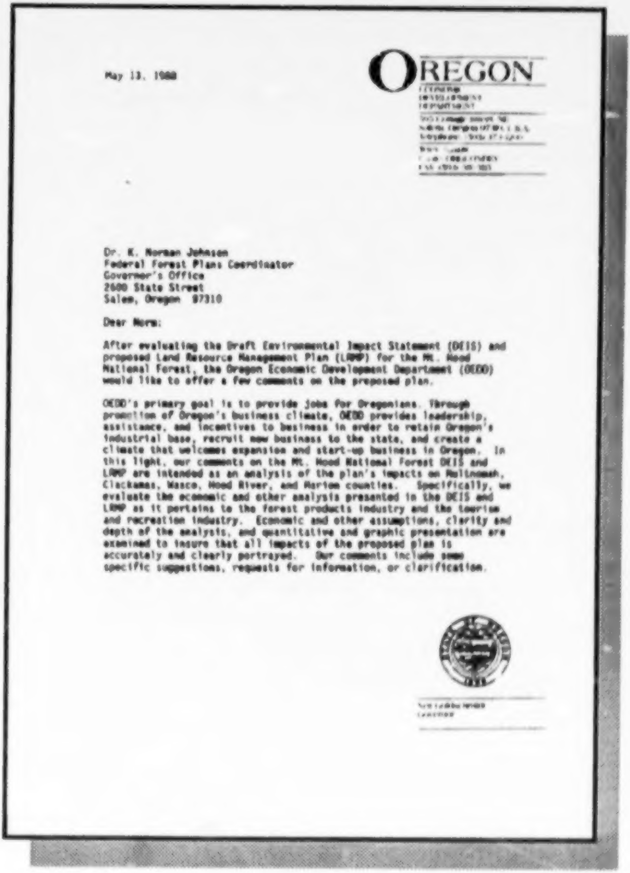


May 13, 1988

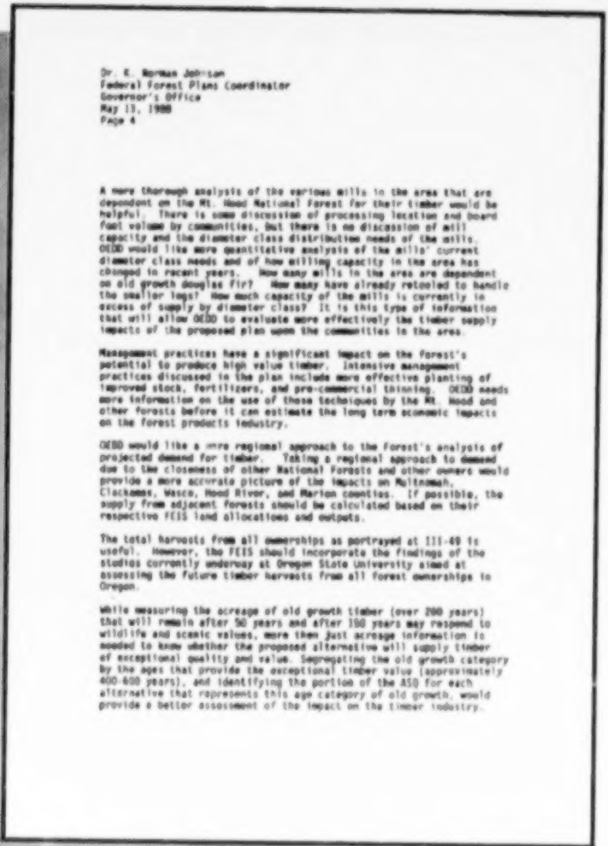
OREGON
ECONOMIC
DEVELOPMENT
DEPARTMENT

Dr. K. Norman Johnson
Federal Forest Plans Coordinator
Governor's Office
2600 State Street
Salem, Oregon 97310

Dear Norm:

After evaluating the Draft Environmental Impact Statement (DEIS) and proposed Land Resource Management Plan (LRMP) for the Mt. Hood National Forest, the Oregon Economic Development Department (OEDD) would like to offer a few comments on the proposed plan.

OEDD's primary goal is to provide jobs for Oregonians. Through promotion of Oregon's business climate, OEDD provides leadership, assistance, and incentives to business in order to retain Oregon's industrial base, recruit new business to the state, and create a climate that welcomes expansion and start-up business in Oregon. In this light, our comments on the Mt. Hood National Forest DEIS and LRMP are intended as an analysis of the plan's impacts on Multnomah, Clackamas, Wasco, Hood River, and Marion counties. Specifically, we evaluate the economic and other analysis presented in the DEIS and LRMP as it pertains to the forest products industry and the tourism and recreation industry. Economic and other assumptions, clarity and depth of the analysis, and quantitative and graphic presentation are examined to insure that all impacts of the proposed plan is accurately and clearly portrayed. Our comments include some specific suggestions, requests for information, or clarification.



A more thorough analysis of the various mills in the area that are dependent on the Mt. Hood National Forest for their timber would be helpful. There is some discussion of processing location and board foot volume by communities, but there is no discussion of mill capacity and the diameter class distribution needs of the mills. OEDD would like more quantitative analysis of the mills' current diameter class needs and of how milling capacity in the area has changed in recent years. How many mills in the area are dependent on old growth douglas fir? How many have already retooled to handle the smaller logs? How much capacity of the mills is currently in excess of supply by diameter class? It is this type of information that will allow OEDD to evaluate more effectively the timber supply impacts of the proposed plan upon the communities in the area.

Management practices have a significant impact on the forest's potential to produce high value timber. Intensive management practices discussed in the plan include more effective planting of improved stock, fertilizers, and pre-commercial thinning. OEDD needs more information on the use of these techniques by the Mt. Hood and other forests before it can estimate the long term economic impacts on the forest products industry.

OEDD would like a more regional approach to the Forest's analysis of projected demand for timber. Taking a regional approach to demand due to the closeness of other National Forests and other owners would provide a more accurate picture of the impacts on Multnomah, Clackamas, Wasco, Hood River, and Marion counties. If possible, the supply from adjacent forests should be calculated based on their respective FEIS land allocations and outputs.

The total harvests from all ownerships as portrayed at III-40 is useful. However, the FEIS should incorporate the findings of the studies currently underway at Oregon State University aimed at assessing the future timber harvests from all forest ownerships in Oregon.

While measuring the acreage of old growth timber (over 200 years) that will remain after 50 years and after 150 years may respond to wildlife and scenic values, more than just acreage information is needed to know whether the proposed alternative will supply timber of exceptional quality and value. Segregating the old growth category by the ages that provide the exceptional timber value (approximately 400-600 years), and identifying the portion of the ASQ for each alternative that represents this age category of old growth, would provide a better assessment of the impact on the timber industry.

TOURISM AND RECREATION INDUSTRY

The tourism and recreation industry and its related services are of increasing importance in western Oregon. The portion of the local tourism dollars that is directly related to the National Forest is unknown. Of critical importance to these industries is access to recreation sites and the maintenance and improvement of tourist facilities in a manner that will meet future demands. Also of importance to the industry and to Oregonians generally is the existence of quality visual corridors and views.

Understandably, impacts upon the tourism industry are difficult to quantify. Recreation visitor use and the number of resulting dollars dispersed into the economy are good estimates at best. One thing we do know is that developed recreation and tourist facilities have a greater impact on the economy than undeveloped tourism. Tourists staying in resorts visiting well developed attractions spend more money in a community than do hikers or tent campers. However, the draw to the more developed sites is often based on access to the more primitive areas. OEDD would like to see more discussion of these issues in the impacts analysis.

There are several issues that OEDD would like addressed in relation to the Forest's analysis of the demand for recreation resources of the Forest.

The Forest bases its demand projections on population trends. At B-50 in the appendices the Forest assumes the future growth in demand occurs at the rate of population growth predicted by the Center for Population Research and Census. The Forest's proposed plan anticipates an increased demand for all forms of recreation; developed and dispersed. Demand for recreation is expected to increase over the next fifty years, and yet the preferred alternative is not expected to meet this demand for all types of recreation or at all current facilities.

Figure TWO-1 at 2-16 of the LRMP depicts supply and demand for developed recreation. It shows that the existing quantity of Recreation Visitor Days (RVDs) will be supplied for the next 50 years and is sufficient to meet demand. As noted, this is misleading because it does not address the fact that many of the more popular sites are over capacity currently. Uneven distribution of demand is discussed as a problem but the plan does not suggest a solution.

Also, because the recreation demand projections are based on population trends, they do not reflect changes in public preference for certain types of recreation experiences. The analysis in the DEIS and LRMP includes information about the forest users' preferences. But, they are based on data that is out dated. The FEIS should include updated information on user preferences, especially for developed recreation facilities and winter recreation.

In the demand analysis, there was no attempt to account for shifting use between types of recreation. The Forest states at B-50 in the appendices that "the possible shifts between types of recreation or acceleration of one type is addressed in the narrative throughout the DEIS." Where? Table TWO-7 at 2-15 of the LRMP provides a summary of the current demand of recreation use by activity. If these shifts were discussed it was not easy to find how any of that analysis was incorporated into the plan.

At B-50, the assumption is made that recreation visitor use is a proxy for the quantity demanded, and that it has an economic value only when less than the estimated present capacity. This assumes there is no economic value for the recreation demand that is in excess of capacity. Yet, once capacity is met at one location or for one type of activity, there will undoubtedly be shifts to other areas or activities.

Table FOUR-12 at 4-203 of the LRMP gives the recreation "objectives" of the proposed plan for decade 1, 2, and 5. "Objectives reflect mixes of outputs or achievements which can be obtained at a given budget level." Also, at 4-217 of the LRMP the projected recreation uses of the Forest are portrayed for decade 1, 2, and 5. Why are the projected unroaded uses of the Forest in the second and fifth decade so high (at 3,261 RVDs and 5,180 RVDs respectively) while the capacity for unroaded uses in the second and fifth decade is so low (at 182 RVDs and 75 RVDs respectively)? Why were no roaded use numbers given for the later decades? Again, why is roaded use projection higher than capacity?

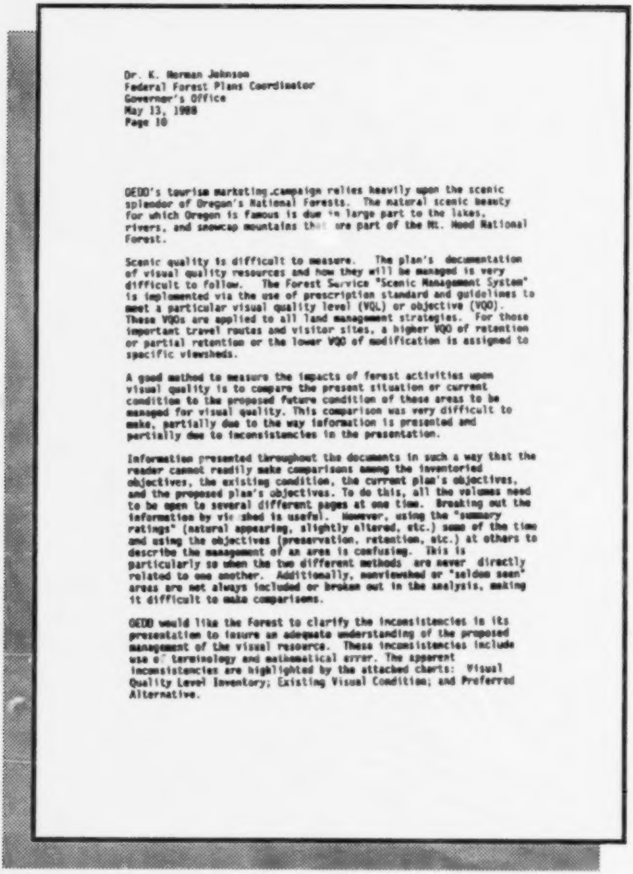
These numbers, as depicted in the tables in chapter four of the LRMP, conflict with the charts on pages 2-19 and 20 of the LRMP.

The charts indicate that for roaded natural and roaded modified recreation, supply will be equal to demand for the first decade and supply will be in excess of demand for the fifth decade. Roaded semi-primitive recreation supply is portrayed as not meeting demand both currently and in the fifth decade. This is in concurrence with the tables in chapter four of the LRMP. However, semi-primitive recreation represents a much smaller portion of total recreation demand than roaded natural and roaded modified and thus, should not offset the contribution to total demand of roaded natural and roaded modified.

Table FOUR-12 and table FOUR-19 of the LRMP indicate that developed site projected use will be consistent with the developed site objectives. In the narrative at page 4-218, the Forest indicates that no new sites will be developed under the preferred alternative and that little used sites or uneconomical to operate sites may be closed to provide for limited expansion of a few popular sites. This will be done to relieve overcrowding and excessive deterioration of resources and facilities. Do the numbers portrayed in the table for construction and reconstruction represent net new construction? Does it include information on the sites that may be closed? Where are these sites and how did the Forest determine whether they are economic to operate? Do the "person at one time" (PAOT) numbers include sites besides campsites?

The preferred alternative, provides for little increase, if any, in developed sites. At page IV-47 in the DEIS, the Forest indicates that none of the alternatives call for significant net changes in developed recreation. OEDD could not find the rationale for precluding an alternative that showed a significant increase in developed sites, at least to offset the pressure on some of the more heavily used areas. How is the Forest proposing to offset the localized excess demand at places like Timberline Lodge and Multnomah Falls? Would better site development at some of the lessor known areas along with an information campaign to promote them help?

Recently there has been a increase in promotion of the Columbia River Gorge and Mt. Hood by this agency and local tourism organizations. Has the Forest included any increase in demand for the developed sites on the Forest due to the information campaigns associated with the tourism-based communities adjacent to the forest?



OEDD's tourism marketing campaign relies heavily upon the scenic splendor of Oregon's National Forests. The natural scenic beauty for which Oregon is famous is due in large part to the lakes, rivers, and snowcap mountains that are part of the Mt. Hood National Forest.

Scenic quality is difficult to measure. The plan's documentation of visual quality resources and how they will be managed is very difficult to follow. The Forest Service "Scenic Management System" is implemented via the use of prescription standard and guidelines to meet a particular visual quality level (VQL) or objective (VQO). These VQOs are applied to all land management strategies. For those important travel routes and visitor sites, a higher VQO of retention or partial retention or the lower VQO of modification is assigned to specific viewsheds.

A good method to measure the impacts of forest activities upon visual quality is to compare the present situation or current condition to the proposed future condition of these areas to be managed for visual quality. This comparison was very difficult to make, partially due to the way information is presented and partially due to inconsistencies in the presentation.

Information presented throughout the documents in such a way that the reader cannot readily make comparisons among the inventoried objectives, the existing condition, the current plan's objectives, and the proposed plan's objectives. To do this, all the volumes need to be open to several different pages at one time. Breaking out the information by viewshed is useful. However, using the "summary ratings" (natural appearing, slightly altered, etc.) some of the time and using the objectives (preservation, retention, etc.) at others to describe the management of an area is confusing. This is particularly so when the two different methods are never directly related to one another. Additionally, nonviewshed or "seldom seen" areas are not always included or broken out in the analysis, making it difficult to make comparisons.

OEDD would like the Forest to clarify the inconsistencies in its presentation to insure an adequate understanding of the proposed management of the visual resource. These inconsistencies include use of terminology and mathematical error. The apparent inconsistencies are highlighted by the attached charts: Visual Quality Level Inventory; Existing Visual Condition; and Preferred Alternative.

Visual Quality Levels Inventory:

The terms VQL and VQO are used interchangeably in the planning documents. In chapter III of the DEIS at III-90 it states: "When Visual Quality Levels (VQLs) are adopted by management through the planning process, they become Visual Quality Objectives (VQOs)." The narrative goes on to define the terms preservation, retention, etc. as it has been defined by other forests and in the Department of Agriculture Handbook on visual resource management. In table III-47 on page III-92 of the DEIS, the Forest outlines the "Recommended Visual-quality Levels" under the current plan. By the definition of VQL just noted, the current adopted plan for the Forest has VQOs not a "Recommended visual-quality Level". This distinction may seem trivial. But the narrative goes on to explain: "The Forest has been divided into viewsheds based on the Sensitivity Levels, the existing visual condition (EVC), and the recommended visual-quality levels discussed in this section. These viewsheds can be managed under different management schemes to achieve different VQOs." Is the Forest talking about the VQLs under the current plan or the VQL inventory? OEDD assumes that table III-47 is the adopted VQL or the VQO of the current plan. The numbers do not match with anything else in the planning documents. Are VQOs adopted objectives and is the VQL the inventory of possible objectives? The following chart assumes this to be the case.

VISUAL QUALITY LEVELS INVENTORY

OBJECTIVE*	M ACRES	% TOTAL ACRES
PRESERVATION	187	17
RETENTION	33	3
PARTIAL RETENTION	375	34
MODIFICATION	408	37
MAXIMUM MODIFICATION	99	9
TOTALS	1102	100

- -

SUMMARY RATINGS**
VIEWSHEDS

WILDERNESS	187	17
NATURAL APPEARING	121	11
SLIGHTLY ALTERED	143	13
MODERATELY ALTERED	99	9
HEAVILY ALTERED	204	18
NONVIEWSHED	348	32***
TOTAL	1102	100

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* from 2-25, LRMP

** from IV-67, DEIS

*** Impossible to break out by objectives: must assume that P and R acres include all W, NA, SA, and NV acres (187+121+143+348=799 < 855=298+557) and that R includes 56 acres (855-799) of MA acres. This leaves PR acres made up of 43 MA acres and 23 HA at best (99-56=43, 66-43=23). Modification and maximum modification acres would be made up of all HA (204-23= 181 = 14+82+85).

Preferred Alternative or Expected Visual Condition:

The Preferred alternative management of the visual resource is portrayed in a number of ways throughout the document: resource outputs (at 4-203 of the LRMP) using the VQOs and acreage; the expected visual condition of the viewsheds using the "summary ratings" and percent acreage (at IV-67 of the DEIS); the present and expected condition of viewsheds (at 4-226 of the LRMP) using summary ratings; and the management area VQOs (at 4-44 of the LRMP) listed by distance zone. In some of these presentations the nonviewshed or "seldom seen" acres are broken out. In others they are not this makes comparison difficult.

PREFERRED ALTERNATIVE

OBJECTIVE*	M ACRES	% TOTAL ACRES
PRESERVATION	187	17
RETENTION	153	14
PARTIAL RETENTION	148	13
MODIFICATION	126	11
MAXIMUM MODIFICATION	140	13
SELDOM SEEN	348	32***
TOTALS	1102	100

SUMMARY RATINGS** VIEWSHEDS		
WILDERNESS	187	17
NATURAL APPEARING	153	14
SLIGHTLY ALTERED	148	13
MODERATELY ALTERED	126	11
HEAVILY ALTERED	140	13
NONVIEWSHED	348	32***
TOTAL	1102	100

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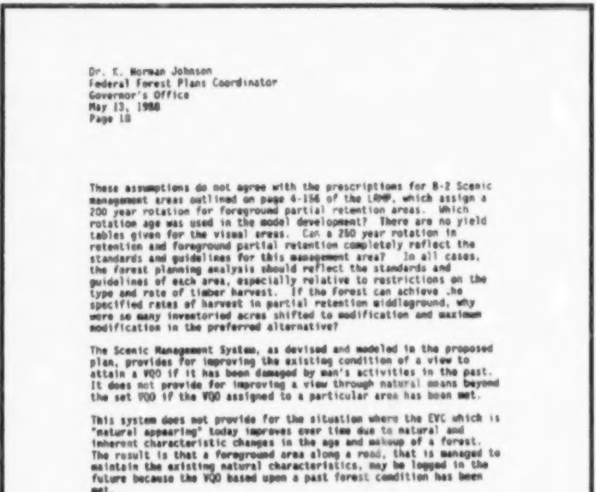
* from 4-203, LRMP

** from IV-67, DEIS

*** expected to be modification and maximum modification



Dr. K. Norman Johnson
Federal Forest Plans Coordinator
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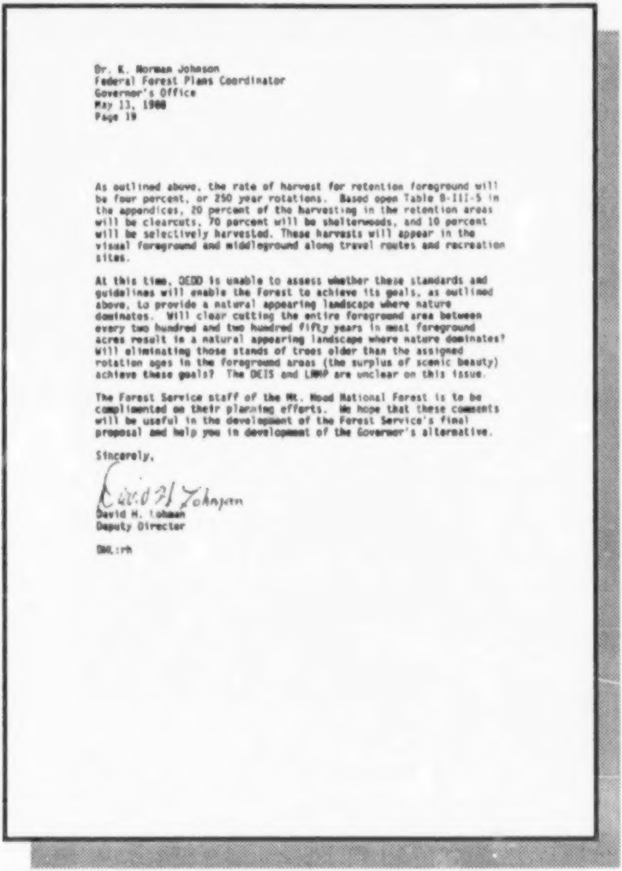
These assumptions do not agree with the prescriptions for B-2 Scenic management areas outlined on page 4-156 of the LRMP, which assign a 200 year rotation for foreground partial retention areas. Which rotation age was used in the model development? There are no yield tables given for the visual areas. Can a 250 year rotation in retention and foreground partial retention completely reflect the standards and guidelines for this management area? In all cases, the forest planning analysis should reflect the standards and guidelines of each area, especially relative to restrictions on the type and rate of timber harvest. If the Forest can achieve .he specified rates of harvest in partial retention middleground, why were so many inventoried acres shifted to modification and maximum modification in the preferred alternative?

The Scenic Management System, as devised and modeled in the proposed plan, provides for improving the existing condition of a view to attain a VQO if it has been damaged by man's activities in the past. It does not provide for improving a view through natural means beyond the set VQO if the VQO assigned to a particular area has been met.

This system does not provide for the situation where the EVC which is "natural appearing" today improves over time due to natural and inherent characteristic changes in the age and makeup of a forest. The result is that a foreground area along a road, that is managed to maintain the existing natural characteristics, may be logged in the future because the VQO based upon a past forest condition has been met.

This system implies that trees of an age beyond what was characteristic along the road in the year of the inventory provide a surplus of natural appearing characteristic landscape that should contribute to the harvest volume. In the Scenic Viewsheds, management area B-2, "limited harvesting shall be planned within these scenic viewsheds but only to maintain the natural appearance of the forest within the viewshed or enhance the visual quality of the timber stands now and in the future, or to provide opportunities for opening views." Is it the intent of the Forest to establish a set of standards and guidelines that assumes there is a surplus of scenic beauty in an area that is to be managed to retain its natural appearing landscape, where nature dominates? Are the standards and guidelines intended to recognize the impacts of time as part of the inherent character of the landscape that provides an attractive, visually pleasing forest setting?



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As outlined above, the rate of harvest for retention foreground will be four percent, or 250 year rotations. Based open Table B-III-5 in the appendices, 20 percent of the harvesting in the retention areas will be clearcuts, 70 percent will be shelterwoods, and 10 percent will be selectively harvested. These harvests will appear in the visual foreground and middleground along travel routes and recreation sites.

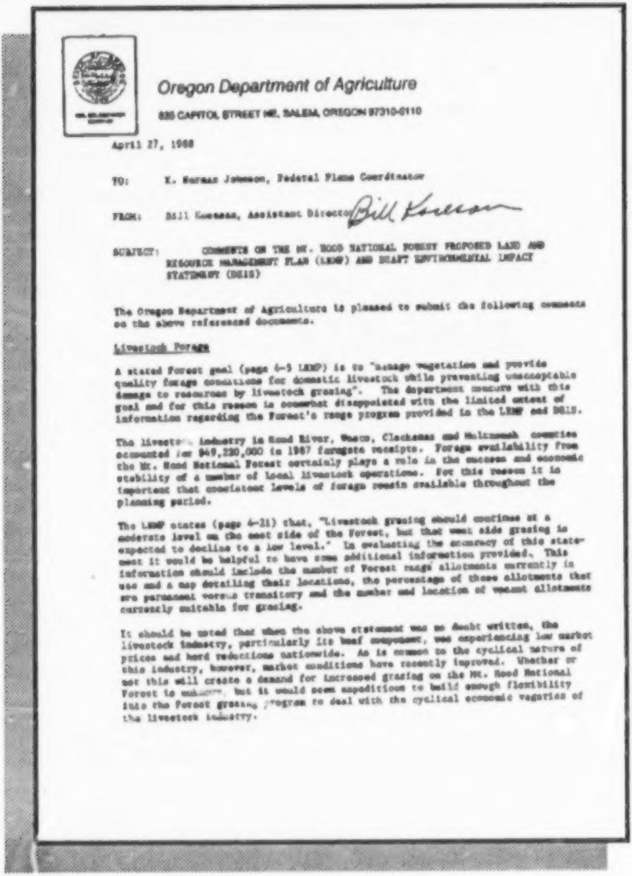
At this time, OEDD is unable to assess whether these standards and guidelines will enable the Forest to achieve its goals, as outlined above, to provide a natural appearing landscape where nature dominates. Will clear cutting the entire foreground area between every two hundred and two hundred fifty years in most foreground acres result in a natural appearing landscape where nature dominates? Will eliminating those stands of trees older than the assigned rotation ages in the foreground areas (the surplus of scenic beauty) achieve these goals? The DEIS and LRMP are unclear on this issue.

The Forest Service staff of the Mt. Hood National Forest is to be complimented on their planning efforts. We hope that these comments will be useful in the development of the Forest Service's final proposal and help you in development of the Governor's alternative.

Sincerely,

David H. Lohman
Deputy Director

DHL:rh



Oregon Department of Agriculture

635 CAPITOL STREET NE, SALEM, OREGON 97310-0110

April 27, 1988

TO: E. Norman Johnson, Federal Plans Coordinator

FROM: Bill [illegible], Assistant Director Bill [illegible]

SUBJECT: COMMENTS ON THE MT. HOOD NATIONAL FOREST PROPOSED LAND AND RESOURCE MANAGEMENT PLAN (LRMP) AND DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

The Oregon Department of Agriculture is pleased to submit the following comments on the above referenced documents.

Livestock Forage

A stated Forest goal (page 4-3 LRMP) is to "manage vegetation and provide quality forage conditions for domestic livestock while preventing unacceptable damage to resources by livestock grazing". The department concurs with this goal and for this reason is somewhat disappointed with the limited extent of information regarding the Forest's range program provided in the LRMP and DEIS.

The livestock industry in Hood River, Wasco, Clackamas and Multnomah counties accounted for $49,220,000 in 1987 farmgate receipts. Forage availability from the Mt. Hood National Forest certainly plays a role in the success and economic stability of a number of local livestock operations. For this reason it is important that consistent levels of forage remain available throughout the planning period.

The LRMP states (page 4-21) that, "Livestock grazing should continue at a moderate level on the east side of the Forest, but that west side grazing is expected to decline to a low level." In evaluating the accuracy of this statement it would be helpful to have some additional information provided. This information should include the number of Forest range allotments currently in use and a map detailing their locations, the percentage of these allotments that are permanent versus transitory and the number and location of vacant allotments currently suitable for grazing.

It should be noted that when the above statement was no doubt written, the livestock industry, particularly its beef component, was experiencing low market prices and herd reductions nationwide. As is common to the cyclical nature of this industry, however, market conditions have recently improved. Whether or not this will create a demand for increased grazing on the Mt. Hood National Forest is unknown, but it would seem expeditious to build enough flexibility into the Forest grazing program to deal with the cyclical economic vagaries of the livestock industry.

Grazing and Resource Restoration

Throughout the LRMP and DEIS, considerable attention is given to the management and restoration of riparian areas. The department agrees that this is an important element of the draft plan, but finds the information provided regarding grazing effects as related to this Forest resource, extremely limited.

Apparently, the goal of "preventing unacceptable damage to resources by livestock grazing" is to be implemented through range allotment management plans. This is no doubt the most effective manner in which to facilitate on-the-ground management; however, due to the intense interest in riparian management, proposed systems of grazing management and associated practices could be more completely detailed in the plan.

It is recognized that specific riparian areas may require exclusion of livestock for a period of time to promote recovery of these important resources. However, it is the opinion of the department that the use of livestock as "resource management tools" can both improve riparian area conditions and generate significant increases in available forage. The riparian pasture concept of fencing to provide seasonal exclusion (time-selective grazing) is preferable to corridor fencing for complete exclusion. Additionally, the development of alternative watering facilities and placement of salt and minerals away from riparian areas can be of assistance. Because of their productivity potential, it is important that riparian areas be carefully managed, not simply withdrawn from use.

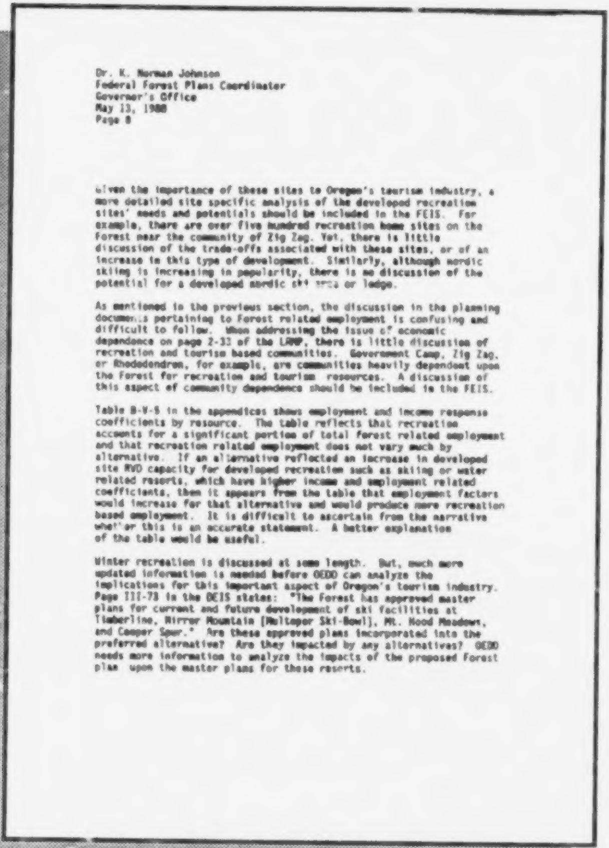
The department believes that one imporant consideration for successful riparian management is to realize that riparian areas cannot be treated as separate entities from the rest of the watershed. Successful riparian enhancement efforts must involve the associated uplands as well. Management must be extended to these areas or riparian improvement will be limited. The plan could more completely tie together the management of riparian areas with that of associated uplands.

Soil and Water Resources

The DEIS contains an excellent discussion of the importance of soils to the overall productivity of the forest resource. In light of the statement on page III-7 in the DEIS that "planning the management of forest resources requires full consideration of soil characteristics", a more detailed discussion of the characteristics of soils found on the Mt. Hood National Forest would be useful.

The DEIS states, "In the short run, protecting soil productivity may appear contrary to economic interests...by increasing harvest costs, but in the long run, minimizing practices which could damage soil productivity...could prevent later economic hardships due to reduced timber production (page III-7)". The department concurs with this statement, and on that basis encourages the Forest to clearly tie management practices to the capability and characteristics of the various soils found on Forest lands.

The DEIS contains a superior discussion of management strategies planned to mitigate negative impacts on soil productivity from timber harvest, road building, etc. This discussion is both informative and useful.



Given the importance of these sites to Oregon's tourism industry, a more detailed site specific analysis of the developed recreation sites' needs and potentials should be included in the FEIS. For example, there are over five hundred recreation home sites on the Forest near the community of Zig Zag. Yet, there is little discussion of the trade-offs associated with these sites, or of an increase in this type of development. Similarly, although nordic skiing is increasing in popularity, there is no discussion of the potential for a developed nordic ski area or lodge.

As mentioned in the previous section, the discussion in the planning documents pertaining to Forest related employment is confusing and difficult to follow. When addressing the issue of economic dependence on page 2-33 of the LRMP, there is little discussion of recreation and tourism based communities. Government Camp, Zig Zag, or Rhododendron, for example, are communities heavily dependent upon the Forest for recreation and tourism resources. A discussion of this aspect of community dependence should be included in the FEIS.

Table B-V-5 in the appendices shows employment and income response coefficients by resource. The table reflects that recreation accounts for a significant portion of total Forest related employment and that recreation related employment does not vary much by alternative. If an alternative reflected an increase in developed site RVD capacity for developed recreation such as skiing or water related resorts, which have higher income and employment related coefficients, then it appears from the table that employment factors would increase for that alternative and would produce more recreation based employment. It is difficult to ascertain from the narrative whether this is an accurate statement. A better explanation of the table would be useful.

Winter recreation is discussed at some length. But, much more updated information is needed before OEDD can analyze the implications for this important aspect of Oregon's tourism industry. Page III-73 in the DEIS states: "The Forest has approved master plans for current and future development of ski facilities at Timberline, Mirror Mountain [Multopor Ski-Bowl], Mt. Hood Meadows, and Cooper Spur." Are these approved plans incorporated into the preferred alternative? Are they impacted by any alternatives? OEDD needs more information to analyze the impacts of the proposed Forest plan upon the master plans for these resorts.

Page III-74 of the DEIS indicates that the Forest is concerned about the supply of facilities for downhill skiing. "At present demand appears to be increasing." The Forest estimates that there are 684,000 "skier visits" annually. How recent is this estimate? The Forest translates this into about 275,000 RVDs. The Mt. Hood Recreation Association reports a significantly higher number based upon a six hour visitor day, rather than the 4.75 hour visitor day the Forest used. Other Forests in Oregon use the higher figure. Recent ski area statistics based on the actual sold capacity would place the maximum at 8.42 hours. OEDD would like to know why the Mt. Hood National Forest used the lower figure. Using a higher number would push forward into the first decade of the planning horizon (the year 2000 or sooner) the point at which the ski resorts on Mt. Hood can no longer handle the demands for their use. OEDD urges the Forest to clarify this issue in the FEIS.

The Forest did not adequately address the need for future nordic ski areas. Mt. Hood Meadows has established the Nordic Center to provide some facilities. Clubs provide for maintenance of tracked areas at Teacup Lake and White River. Most nordic trails are roads that are snow covered in winter. The proposed plan has no areas allocated for development of nordic centers and the need of snow play areas away from developed ski areas is not addressed. Nordic skiing is rapidly growing in popularity yet the plan does not address the issue directly. Further discussion of how rapidly this sport is growing, and how and where the Forest proposes to meet this demand should be included in the FEIS.

One method to improve the information about recreation use and expectations is through monitoring. Monitoring of recreation use should be an integral part the monitoring plan. Table FIVE-2 of the LRMP outlines the proposed monitoring plan for recreation. It indicates that changes in the Recreation Opportunity Spectrum (ROS) class distribution will be monitored by mapping. Off Road Vehicle (ORV) use will be monitored by ground view and public comments. This does not give enough detail to determine what will be done to quantifiably assess the demand for recreation and tourist facilities on the forest. A marketing survey to determine recreationists' preferences for type of facilities and experience would help in ongoing and future planning efforts.

Without a high quality viewshed from the high-use recreation sites and along the most traveled routes, the potential for tourism development is uncertain. The scenic quality of the areas adjacent to the sites of highest potential may well be critical to the success of current and future tourism development efforts in the area.

SUMMARY RATINGS** VIEWSHEDS	
WILDERNESS	17
NATURAL APPEARING	5
SLIGHTLY ALTERED	27
MODERATELY ALTERED	19
HEAVILY ALTERED	0
NONVIEWSHED	32***
TOTAL	100

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* from 2-27, LRMP

** from IV-67, DEIS

*** 32% breaks out as 5% R or PR, 18% M, and 9% MM by calculating differences between percent columns.

The LRMP at page 2-22 describes VQOs and VQLs in the following manner: "The visual management system inventory process results in all forest lands having a recommended VQL. In the land management planning process, trade-offs are made among many resources. This results in the adoption of the recommended VQLs as VQOs in the Forest Plan." Is the reader to assume that this is the correct explanation?

There are other errors in the depiction of the VQLs inventory at 2-27 in the LRMP and in Table IV-15 in the DEIS (see chart). The table uses the terminology "Visual Management System" to represent the inventory of "desired visual condition," and the "summary ratings" (natural appearing, slightly altered, etc.) to depict the inventoried condition. The LRMP depicts the information using the objectives (preservation, retention, etc.). In the LRMP, the objective of retention is supposed to represent three percent of the total Forest acres; in the Table in the DEIS "natural appearing" is the objective for five percent of the acres. The percentages for partial retention and slightly altered also do not match up. This leads to the conclusion that the retention acres in the inventory are made up of only natural appearing acres. This is not consistent with the retention acres in the preferred alternative, which include Wilderness, natural appearing, and slightly altered acres (see below).

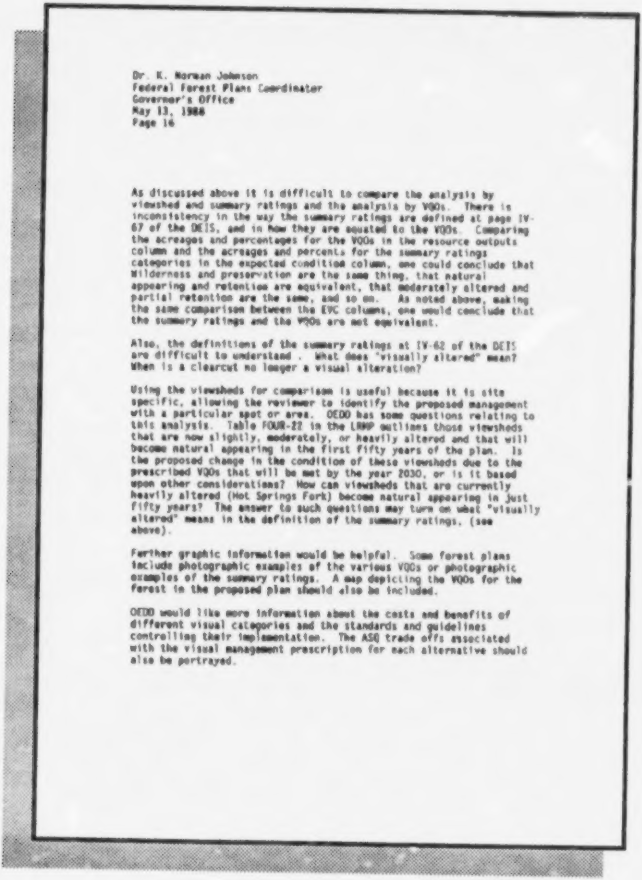
The map of visual resources that appears on page III-94 of the DEIS and 2-24 of the LRMP is titled "Inventoried Visual Quality Objectives". The DEIS makes no explanatory reference to the map. The LRMP at 2-23 explains that the map "depicts the VQOs for the forest". The reader must assume that the map is of the VQLs as inventoried in 1973 and updated in 1983 as discussed on page III-90 of the DEIS and as identified on page 2-23 of the LRMP. This is confusing to the reader. Also, looking at the map and at the acreage numbers and percentages of the VQL inventory as outlined in the above chart, it is difficult to believe that the retention areas highlighted on the map represent only three percent of the total area.

Existing Visual Condition:

Table III-46 on page III-91, and Table IV-15 on page IV-67 of the DEIS, and Table TWO-8 on page 2-25 of the LRMP outlines the "Existing Visual Condition" (EVC) as of 1979. In the LRMP, conditions are not highlighted in terms of visual objectives (retention, partial retention, etc.) but by the definition of the six objectives. Another problem is that the acreages and percentages do not match. For example, in the LRMP preservation encompasses 27 percent of the total Forest acres and in the DEIS 24 percent. Apparently, rounding assumptions are not consistently applied. The following chart highlights further inconsistencies.

EXISTING VISUAL CONDITION

OBJECTIVE*	M ACRES	% TOTAL ACRES
PRESERVATION	298	27
RETENTION	557	50
PARTIAL RETENTION	66	6
MODIFICATION	85	8
MAXIMUM MODIFICATION	82	8
UNACCEPTABLE MODIFICATION	14	1
TOTALS	1102	100



As discussed above it is difficult to compare the analysis by viewshed and summary ratings and the analysis by VQOs. There is inconsistency in the way the summary ratings are defined at page IV-67 of the DEIS, and in how they are equated to the VQOs. Comparing the acreages and percentages for the VQOs in the resource outputs column and the acreages and percents for the summary ratings categories in the expected condition column, one could conclude that Wilderness and preservation are the same thing, that natural appearing and retention are equivalent, that moderately altered and partial retention are the same, and so on. As noted above, making the same comparison between the EVC columns, one would conclude that the summary ratings and the VQOs are not equivalent.

Also, the definitions of the summary ratings at IV-62 of the DEIS are difficult to understand . What does "visually altered" mean? When is a clearcut no longer a visual alteration?

Using the viewsheds for comparison is useful because it is site specific, allowing the reviewer to identify the proposed management with a particular spot or area. OEDD has some questions relating to this analysis. Table FOUR-22 in the LRMP outlines those viewsheds that are now slightly, moderately, or heavily altered and that will become natural appearing in the first fifty years of the plan. Is the proposed change in the condition of these viewsheds due to the prescribed VQOs that will be met by the year 2030, or is it based upon other considerations? How can viewsheds that are currently heavily altered (Hot Springs Fork) become natural appearing in just fifty years? The answer to such questions may turn on what "visually altered" means in the definition of the summary ratings, (see above).

Further graphic information would be helpful. Some forest plans include photographic examples of the various VQOs or photographic examples of the summary ratings. A map depicting the VQOs for the forest in the proposed plan should also be included.

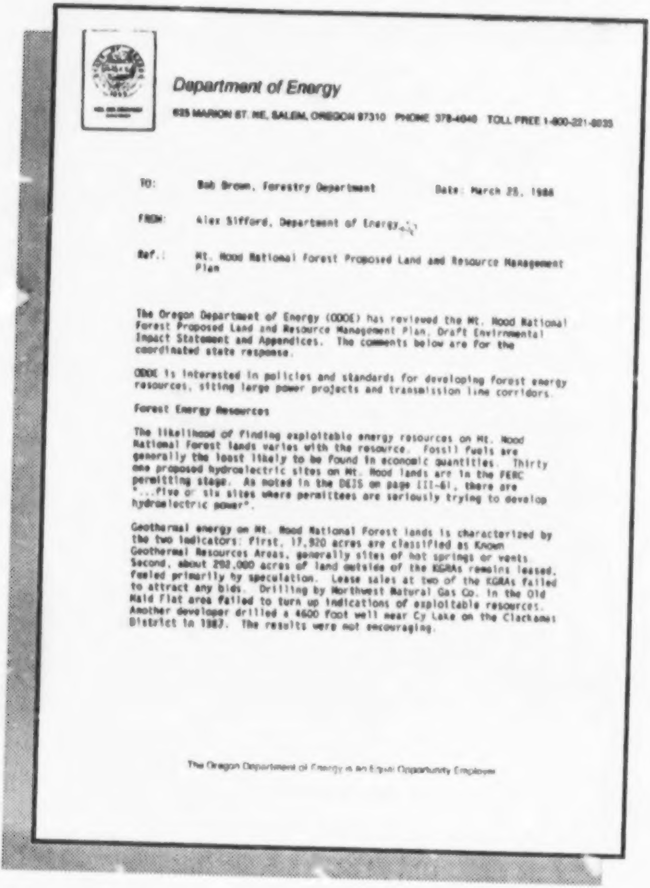
OEDD would like more information about the costs and benefits of different visual categories and the standards and guidelines controlling their implementation. The ASQ trade offs associated with the visual management prescription for each alternative should also be portrayed.

In the Forest's description of Category B management areas or page 4-58 of the LRMP it states: "It is estimated these additional restrictions [concerning rate of harvest, sizes of openings, and minimum rotations] have the effect of reducing potential timber harvests by as much as one-third of that expected from Category C Management areas." Table FOUR-4 at page 4-44 of the LRMP outlines the VQOs by management areas. The narrative explains that the VQOs are a minimum standard and that the "management for visual purposes...may affect costs but are not expected to reduce yields." This inconsistency appears elsewhere in the documents.

The description of Category B management areas at page 4-58 of the LRMP indicates that "site specific conditions may require more restricted timber harvest or no timber harvest activities to occur in particular geographic areas during a given decade, while in other areas more timber harvesting may occur in order to achieve the overall timber goal." Does this mean the specific prescription and standards and guidelines for Category B areas may be ignored to achieve the overall timber goal? When will these variations from the prescribed guidelines occur, to either prevent harvest or increase harvest, beyond the prescribed rate. Will the reduction or increase be "made-up" in another part of the landbase?

The discussion and table about reduced yields for purposes of the benchmark analysis at B-113 of the appendices the Forest depicts the various VQOs and their reduced yields:

Preservation	unregulated harvest only
Foreground retention Foreground partial retention Middleground retention	4% or 250 year rotations
Foreground modification Middleground partial retention Background partial retention	8% or 125 year rotation
Middleground modification background modification All unseen areas	harvest limited only by dispersion



Department of Energy

625 MARION ST. NE, SALEM, OREGON 97310 PHONE 378-4040 TOLL FREE 1-800-221-8035

TO: Bob Brown, Forestry Department Date: March 25, 1988

FROM: Alex Sifford, Department of Energy

Ref.: Mt. Hood National Forest Proposed Land and Resource Management Plan

The Oregon Department of Energy (ODOE) has reviewed the Mt. Hood National Forest Proposed Land and Resource Management Plan, Draft Environmental Impact Statement and Appendices. The comments below are for the coordinated state response.

ODOE is interested in policies and standards for developing forest energy resources, siting large power projects and transmission line corridors.

Forest Energy Resources

The likelihood of finding exploitable energy resources on Mt. Hood National Forest lands varies with the resource. Fossil fuels are generally the least likely to be found in economic quantities. Thirty one proposed hydroelectric sites on Mt. Hood lands are in the FERC permitting stage. As noted in the DEIS on page III-61, there are "...five or six sites where permittees are seriously trying to develop hydroelectric power".

Geothermal energy on Mt. Hood National Forest lands is characterized by the two indicators: First, 17,920 acres are classified as Known Geothermal Resources Areas, generally sites of hot springs or vents. Second, about 292,000 acres of land outside of the KGRAs remains leased, fueled primarily by speculation. Lease sales at two of the KGRAs failed to attract any bids. Drilling by Northwest Natural Gas Co. in the Old Maid Flat area failed to turn up indications of exploitable resources. Another developer drilled a 4600 foot well near Cy Lake on the Clackamas District in 1987. The results were not encouraging.

The high temperature geothermal energy potential on Mt. Hood lands appears to be slim. Therefore, the restrictions proposed under the preferred alternative (shown in Table II-26) are acceptable to ODOE. Moderate temperature resources may be readily available. Direct use of geothermal energy was sought at Wy'East Day Lodge. ODOE urges the Forest service to consider that option in the master plans for all lodges on the Forest.

The Mt. Hood has sizable residues from timber harvesting. The DEIS on page IV-11 states that "...improved utilization of woody debris left on the site..." will take place under all alternatives. Due to the need to reduce slash burning, use of these resources as fiber - and fuel - will be encouraged under whichever alternative is adopted. ODOE supports this management goal.

Power Plant Siting

Should a power plant larger than 25 MW in size be proposed on Mt. Hood National Forest lands, it would come under Energy Facility Siting Council review and requirements. Proposed hydroelectric sites on the Mt. Hood are smaller than this size.

Transmission Lines

Oregon's Energy Facility Siting Council reviews and approves electric transmission lines in excess of 230 kilovolts and natural gas lines at least 16 inches in diameter. The plan notes on page III-102 that "...over the near term no new major powerline corridors on the Forest appear necessary". The plan further states that "...the Forest plans to continue looking for opportunities to encourage the use of existing utility cooridors". ODOE supports this management goal. Environmental analysis required for any future corridors will include participation by the state Energy Facility Siting Council for appropriate facilities.

If you need more information please call me at 378-2778.

AS/4041J

The LRMP states that, "water is one of the forest's most valuable and extensive renewable resources" (page 2-9). This is certainly an accurate statement, and the value of 5.93 million acre feet of annual flow cannot be overestimated considering the parts of the state for which the forest serves as a watershed. The DEIS states regarding special emphasis watersheds that "most multiple use management activities...may take place in these areas; however, these activities must reflect consideration for watershed needs..." (4-17 LRMP). Because of the importance of this forest resource, we would contend that this guideline should apply to all forest watersheds.

Table FTA-2 provides a good outline of watershed treatments planned. This information is useful in gaining a picture of the watershed enhancement needs on the Forest. Since, as stated in the DEIS, "research has shown that 80-90 percent of the increase in sediment resulting from timber management can be attributed to the transportation network (III-13 DEIS), the department would encourage careful attention to this aspect of the watershed in planning watershed enhancement activities.

The DEIS states that, "aquatic habitat condition, which includes water quality, is dependent on the condition of the riparian zone..." (page III-10). While we concur that riparian conditions are critically important to aquatic habitat and water quality, the importance of upland conditions to these important resources should not be overlooked.

Noxious Weeds

Noxious weed control is of significant interest to the Oregon Department of Agriculture, as the state agency with responsibility for the management of noxious weeds in Oregon. We appreciate the stated commitment of the Forest (IV-36 LRMP) to cooperate with state, county and other federal groups in noxious weed control. However, some additional information should be provided in the final Environmental Impact Statement regarding this topic. This information should include an inventory of weed species present on Forest lands and a plan for addressing the treatment of noxious weed infestations. It is acknowledged that treatment methodologies will be dictated by the Region VI EIS for Managing Competing and Unwanted Vegetation, but a more detailed strategy for addressing this problem would seem appropriate in a plan of this magnitude and duration. The Oregon Department of Agriculture stands ready to assist in the development of this information.

Sensitive, Threatened and Endangered Plant Species

The Oregon Department of Agriculture compliments the Mt. Hood National Forest for its strong approach to the problem of sensitive, threatened and endangered plant species, as presented in the current DEIS. The sections within the document addressing this issue are well prepared, professionally researched, and easy to read. The included table, listing the plant species of concern on the Forest, is thorough and accurate, and there were no obvious omissions. As the Oregon Department of Agriculture finalizes its determinations concerning official listing of threatened and endangered plants, we will work to keep the Forest apprised of changes in species status at the state level.

Considering the fact that the Mt. Hood National Forest has recently hired a professional botanist (Lois Kemp), it may be appropriate to identify this staff position in the DEIS. Because this person will presumably be involved with monitoring tasks as well as project clearances, it would be helpful to give some examples of the types of studies likely to be implemented. Moreover, some mention of other federal or state agencies that might be called upon for consultation or assistance should be included. If the Forest has plans for future staff botanists or seasonal employees, these could be outlined as well. The amount of money allocated for these types of positions, with a breakdown of salary and field expenses, would give a clearer picture of the Forest's commitment to sensitive species conservation.

Finally, it may be appropriate to include sensitive plant species management as one of the major public issues addressed at the beginning of the DEIS. Considering the amount of federal and state legislation in existence that focuses directly or indirectly on this matter, it seems surprising that sensitive species were not considered a public issue in the beginning. Perhaps the fact that Oregon has recently passed an Endangered Species Act (Senate Bill 533, 1987 Legislative session) will provide enough motivation to change this.

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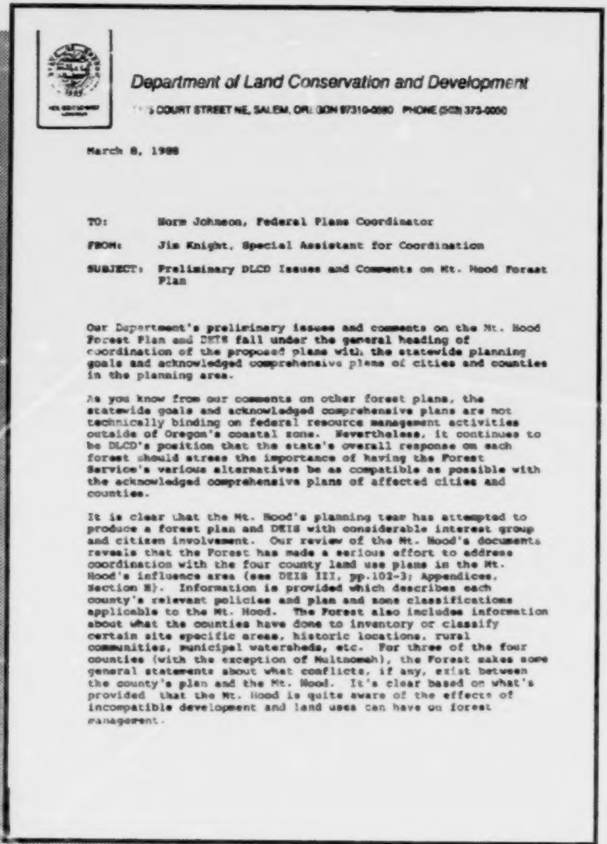

Department of Land Conservation and Development

1175 COURT STREET NE, SALEM, OREGON 97310-0590 PHONE (503) 373-0050

March 8, 1988

TO: Norm Johnson, Federal Plans Coordinator

FROM: Jim Knight, Special Assistant for Coordination

SUBJECT: Preliminary DLCD Issues and Comments on Mt. Hood Forest Plan

Our Department's preliminary issues and comments on the Mt. Hood Forest Plan and DEIS fall under the general heading of coordination of the proposed plans with the statewide planning goals and acknowledged comprehensive plans of cities and counties in the planning area.

As you know from our comments on other forest plans, the statewide goals and acknowledged comprehensive plans are not technically binding on federal resource management activities outside of Oregon's coastal zone. Nevertheless, it continues to be DLCD's position that the state's overall response on each forest should stress the importance of having the Forest Service's various alternatives be as compatible as possible with the acknowledged comprehensive plans of affected cities and counties.

It is clear that the Mt. Hood's planning team has attempted to produce a forest plan and DEIS with considerable interest group and citizen involvement. Our review of the Mt. Hood's documents reveals that the Forest has made a serious effort to address coordination with the four county land use plans in the Mt. Hood's influence area (see DEIS III, pp.102-3; Appendices, Section B). Information is provided which describes each county's relevant policies and plan and zone classifications applicable to the Mt. Hood. The Forest also includes information about what the counties have done to inventory or classify certain site specific areas, historic locations, rural communities, municipal watersheds, etc. For three of the four counties (with the exception of Multnomah), the Forest makes some general statements about what conflicts, if any, exist between the county's plan and the Mt. Hood. It's clear based on what's provided that the Mt. Hood is quite aware of the effects of incompatible development and land uses can have on forest management.

There are several areas where the Mt. Hood's treatment of land use coordination can be strengthened. First, the DEIS needs to indicate that all of the city and county comprehensive plans affected by the Forest have been acknowledged to comply with the statewide planning goals by the state Land Conservation and Development Commission. Second, it appears that there is nothing in the Mt. Hood's submittal which is comparable to the Umatilla Forest's mapped depiction of county zoning districts in relation to surrounding and interspersed federal holdings. Third, the Mt. Hood, while listing the adoption dates of each county's comprehensive plan, does not include, as the Umatilla did, the adoption dates of each county's implementing ordinances. Finally, the Mt. Hood should consider following the Umatilla's example and present some general findings explaining how the Forest satisfies the statewide planning goals.

Inclusion of land use coordination information in National Forest plans is valuable not only for strengthening federal-state-local coordination but also for assisting the state in deciding upon a preferred alternative for each forest.

DLCD requests that the state's response on the Mt. Hood commend the Forest for its overall consideration of land use coordination in its planning process. In terms of additional steps, the Mt. Hood should be asked to do more to support its conclusions on the nature and level of land use conflicts with surrounding county plans. Specifically, the Mt. Hood should attempt to obtain from local government planning authorities written indications of the relationships of city and county land use policies, map designations and implementing regulations with the alternatives being proposed by the Forest.

While the relationship of each local plan with the Mt. Hood Forest will vary, an assessment by the Forest of the compatibility of its plan (and the various alternatives) with the land use plans of the communities in the area should be based on the following factors:

--identification and discussion of applicable resource concerns, geographic areas, issues or problems described in comprehensive plans which relate to or are affected by the forest;

--compatibility, where possible, of comprehensive plan policies with the forest's resource use and management recommendations and standards;

--avoidance and mitigation of specific use, activity and resource conflicts (e.g. dwellings and structures in area of high fire danger or resource value) which may occur in and along the boundary area between federal and nonfederal ownerships; and only be done with a mineral resource map and inventory as a basic reference tool in the document.

One report entitled, "Geology and Geothermal Resources of the Mount Hood Area, Oregon" DOGAMI Special Paper 14 in particular should have been consulted. The report discusses a number of areas with geothermal potential.

Minerals and energy resources are not mentioned in the explanations of the various alternatives. Two short tables on page III-58 & 59 of the DEIS which summarize the direct effects of the available and the restrictions on access and use, differ considerably among the alternatives. The effect of these differences on mineral development should be more fully explained.

The department recommends quantitative estimates rather than the above vague, qualitative estimates of mineral and energy resource potential. On page IV-74 of the EIS, lack of quantitative estimates of future energy production is defended because these estimates are not "proven".

Estimates of geothermal potential are given in the four-state geothermal assessment sponsored by BPA (Bloomquist and others, 1985, WAOENG-85-92a DOE/BP-13609-1, WAOENG-85-92b DOE/BP-136092, available from the Washington State Energy Office or BPA). Please reference Appendix II, the Government Camp site which has an estimated 25 MW of thermal energy for direct heating.

A number of the management areas have a negative impact on mineral resource development. This negative impact is partly explicit (i.e. the EIS states that lands are withdrawn from mineral extraction), or it is implicit, owing to competition from vaguely defined visual or recreational resources, such as the following from page II-58 of the DEIS:

- Unroaded Recreation - No Timber Harvest
- Developed Recreation Sites (ski areas and campgrounds)
- Special Interest Areas
- Key Site Riparian Habitat and Special Emphasis Watersheds
- Northern Spotted Owl Habitat Areas (SOHA), Pileated Woodpecker/Pine Marten Habitat
- Wild, Scenic and Recreation Rivers, and Scenic Viewsheds.

The "Wild, Scenic and Recreation Rivers, and Scenic Viewsheds" area cover a very large area and could have a correspondingly large impact on mineral and geothermal development.

The definition of this and other categories do not explicitly state the effect on geothermal power plants or production wells. Geologists in industry have found that the effect of this vague is to zone areas "no surface occupancy" for geothermal power plants. If this is the case, it should be explicitly stated, and the reasoning behind the zones should be defended by quantitative studies of the actual effect of facilities which might reasonably be expected be sited (e.g. in the case of a geothermal plant, small modular units). The department recommends that these studies be accomplished by experts who are experienced with the design and siting characteristics of geothermal or mineral resource extraction facilities.

In the case of geothermal energy, the resource extraction facility can be either (1) direct use of the fluid for heating or (2) conversion of the fluid to electrical energy in a geothermal power plant. The environmental impact of these two uses is very different, but this is not discussed anywhere in the EIS.

This forest has a number of active hot springs and almost certainly has a shallow geothermal resource between the hot springs (e.g. see Geothermal Resources Map of Oregon, 1982, available from DOGAMI) which could be used for direct heating of small cabins and other modest facilities (see the above-cited BPA report for estimate of resource size and value). It is unclear from the EIS that direct use has been distinguished from potentially more intrusive uses such as large-scale geothermal power plant construction.

A related issue is the possibility of extraction of geothermal resources by directional drilling from areas where geothermal leasing is allowed to areas where leasing is at present not allowed. Extraction of geothermal resources by directional drilling under an environmentally sensitive area is unlikely to affect the surface at all. Therefore geothermal leasing could be allowed in all forest lands with the stipulation of no surface occupancy, where appropriate. This would circumvent the need for the USFS to prejudge industry's ability to reach resources by directional drilling. The market place would make this judgment.

The State urged the Forest Service to give more attention to the impact of its actions on key watersheds and added that the plan was light on fishery analysis, leaving questions about the impact of the plan on the Columbia River salmon runs.

The State's proposed response was developed from: (1) public response at state-sponsored meetings and through letters; (2) staff recommendations from affected state agencies; (3) field inspections of the Forest by Norm Johnson, the Governor's Federal Plans Coordinator, and by other members of the Governor's coordinated response team; and (4) Forest Service responses to points raised by the public and by the state team.

Copies of the state's proposed coordinated response to the Mt. Hood National Forest Plan will be available after May 23 at:

Oregon Department of Forestry
14995 S. Highway 211
Molalla, OR 97038

Board of County Commissioners
309 State Street
Hood River, OR 97031

Oregon Department of Forestry
2600 State Street
Salem, OR 97310

Oregon Department of Forestry
3701 W. 13th
The Dalles, OR 97058

Oregon Department of Fish
and Wildlife
506 SW Mill Street
Portland, OR 97207

Oregon State University
School of Forestry
Forest Management, Peavy 202
Corvallis, OR 97331

COMMENTS, DUE BY MAY 27, SHOULD BE SENT TO:

K. Norman Johnson
Federal Plans Coordinator
2600 State Street
Salem, OR 97310

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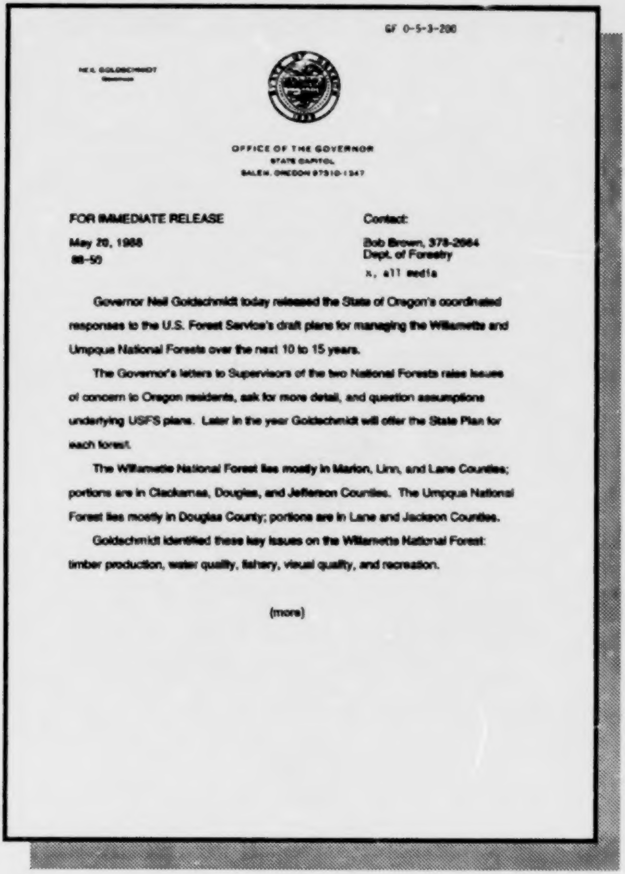


GF 0-5-3-200

NEIL GOLDSCHMIDT
Governor

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310-1347

FOR IMMEDIATE RELEASE

May 20, 1988
88-50

Contact:

Bob Brown, 378-2964
Dept. of Forestry

x, all media

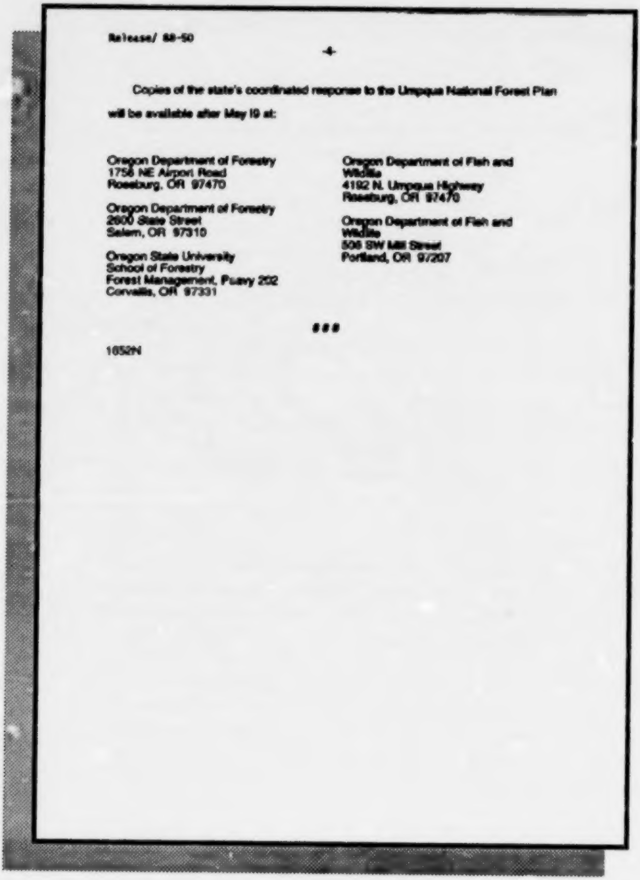
Governor Neil Goldschmidt today released the State of Oregon's coordinated responses to the U.S. Forest Service's draft plans for managing the Willamette and Umpqua National Forests over the next 10 to 15 years.

The Governor's letters to Supervisors of the two National Forests raise issues of concern to Oregon residents, ask for more detail, and question assumptions underlying USFS plans. Later in the year Goldschmidt will offer the State Plan for each forest.

The Willamette National Forest lies mostly in Marion, Linn, and Lane Counties; portions are in Clackamas, Douglas, and Jefferson Counties. The Umpqua National Forest lies mostly in Douglas County; portions are in Lane and Jackson Counties.

Goldschmidt identified these key issues on the Willamette National Forest: timber production, water quality, fishery, visual quality, and recreation.

(more)



Release/ 88-50

-4-

Copies of the state's coordinated response to the Umpqua National Forest Plan will be available after May 19 at:

Oregon Department of Forestry
1758 NE Airport Road
Roseburg, OR 97470

Oregon Department of Forestry
2600 State Street
Salem, OR 97310

Oregon State University
School of Forestry
Forest Management, Peavy 202
Corvallis, OR 97331

Oregon Department of Fish and
Wildlife
4192 N. Umpqua Highway
Roseburg, OR 97470

Oregon Department of Fish and
Wildlife
506 SW Mill Street
Portland, OR 97207

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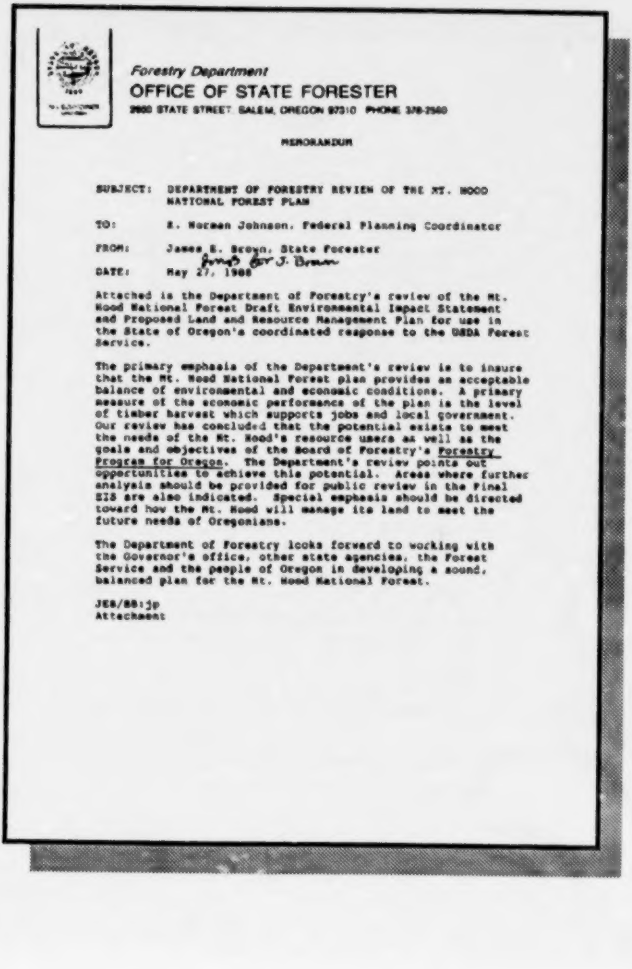


Forestry Department
OFFICE OF STATE FORESTER
2600 STATE STREET SALEM, OREGON 97310 PHONE 378-2560

MEMORANDUM

SUBJECT: DEPARTMENT OF FORESTRY REVIEW OF THE MT. HOOD NATIONAL FOREST PLAN

TO: R. Norman Johnson, Federal Planning Coordinator

FROM: James E. Brown, State Forester
Jones for J. Brown

DATE: May 27, 1988

Attached is the Department of Forestry's review of the Mt. Hood National Forest Draft Environmental Impact Statement and Proposed Land and Resource Management Plan for use in the State of Oregon's coordinated response to the USDA Forest Service.

The primary emphasis of the Department's review is to insure that the Mt. Hood National Forest plan provides an acceptable balance of environmental and economic conditions. A primary measure of the economic performance of the plan is the level of timber harvest which supports jobs and local government. Our review has concluded that the potential exists to meet the needs of the Mt. Hood's resource users as well as the goals and objectives of the Board of Forestry's Forestry Program for Oregon. The Department's review points out opportunities to achieve this potential. Areas where further analysis should be provided for public review in the Final EIS are also indicated. Special emphasis should be directed toward how the Mt. Hood will manage its land to meet the future needs of Oregonians.

The Department of Forestry looks forward to working with the Governor's office, other state agencies, the Forest Service and the people of Oregon in developing a sound, balanced plan for the Mt. Hood National Forest.

JEB/BB:jp
Attachment

Management constraints, inventory differences, and yield table differences may prevent direct comparison of these targets with the DEIS alternatives. However, they provide a tangible measurement of the Forestry Program objectives.

The failure of all the DEIS alternatives, including the preferred, to meet the basic FFPO objectives indicates that the Mt.Hood National Forest has embarked on a management direction that is different from the management envisioned by the Board of Forestry in 1982. It is evident from the discussion throughout the DEIS that the forest has concluded that timber management, even at reduced levels, is incompatible with other resource uses. The Department of Forestry disagrees with that conclusion.

The preferred alternative allocates only 47 percent of the Mt. Hood's forested lands to full yield timber management. A primary reason for this result is the continued reallocation of commercial forest lands (in addition to the allocations in the existing management plan) in each alternative to strategies that prohibit timber management or reduce timber management opportunities below the full yield potential.

The Department of Forestry believes that the Mt.Hood still has the potential to mold additional alternatives that fully satisfy the FFPO objectives. The forest is encouraged to construct such alternatives, incorporating the other recommendations by the Department, and to provide an opportunity for public review.

COORDINATION WITH DEPARTMENT OF FORESTRY PROGRAMS

Fire Management - (DEIS, page III-37, LRMP, page 4-37) The Department of Forestry supports a policy of applying aggressive, cost effective suppression action to wildfires that threaten life, private property, public safety, improvements, or investments. Coordination of protection planning and suppression efforts with other protection agencies, including this Department, is an important part of this policy.

The Final EIS should more thoroughly discuss how large areas of unroaded and unmanaged forest land increase the hazard and risk of catastrophic wildfires as well as the cost and difficulty of suppressing them.

Smoke Management - (DEIS, pages III-15) Even though wildfires are random events on the forest, last summer's experience in southwest Oregon indicates the extreme magnitude of the negative effects that natural fires can have on air quality. The DEIS text makes several references to the contribution of prescribed fires to airshed degradation. However, it fails to note that the management activity of prescribed burning reduces the risk of catastrophic natural and man-caused fires which can generate severe and unplanned reductions in visibility.

Forest smoke will originate on the Mt.Hood whether or not prescribed burning occurs. Through the use of smoke management techniques and by employing sophisticated controlled burning methods, the effect of prescribed fires on visibility can be minimized. The Department of Forestry supports full use of this and other management tools in order to prevent the significantly greater air quality problems and the other social and environmental costs which result from wildfires in areas of untreated fuel accumulations.

Oregon Forest Practices Act - (DEIS, page IV-230, LRMP, page 4-35) The Oregon Forest Practices Act provides minimum standards for soil and water protection and for the maintenance of forest productivity. The Environmental Protection Agency has certified the Forest Practices Act as providing the "best management practices" for protecting fish life and water for domestic uses from non-point pollution sources on forest lands and as meeting the requirements of the Clean Water Act as amended.

To demonstrate consistency with the Clean Water Act, the Mt.Hood Final EIS should discuss how the alternatives will satisfy the requirements of the Forest Practices Act. Particular attention should be given to the newly adopted rules for riparian area management. The forest's standards and guidelines for riparian areas should reflect the full intent of the Forest Practices Act as well as demonstrating consistency with the approved rules.

The Final EIS should provide alternatives with a range of riparian protection. and with at least one alternative providing the minimum level of protection required by the Forest Practices Act. The costs and benefits of these varying levels of protection should be provided and discussed.

The forest standards and guidelines for timber management require minimum reforestation stocking of 125 trees per acre for all species and site groups. The Oregon Forest Practices Act requires 150 trees per acre to be established on

Forest Service makes the planning process vulnerable to legal challenges and prevents the agency from gaining the valuable input that the public and other resource professionals could have provided the Forest Service.

The process for implementing MMRs must be opened up fully to public review. By doing so, the Forest Service may be able to develop new alternatives that are more responsive to public concerns.

5. Legal Sufficiency - Minimum management requirements were developed by the Forest Service based on the Region's interpretation of the NFMA requirements. Other parties, including other Forest Service Regions, have interpreted these requirements differently. Unless the Forest Service improves the analysis of MMRs by adequately considering the concerns of environmentalists, forest industry representatives, and other parties, litigation of the MMR issue seems likely.

MMR Sensitivity Analysis - (App. G) The MMR sensitivity analysis provided in Appendix G provides little valuable information and may not meet the Region's direction in response to public concerns on the MMR issue. The primary problem is that there is no quantitative information given on how these different levels of protection would affect the target resources in the short and long term.

What new information is provided in this analysis to support the Mt. Hood's assumption that its MMRs are true minimums? A more comprehensive discussion should be provided in the Final EIS. This analysis should describe the actual changes in the target resources that would occur with a increase or decrease in the level of protection and also a more complete discussion of the full economic effects (employment, county payments, etc.) that would result.

Prescription Choices - (App., page B-22) The Mt. Hood FORPLAN model relies on prescription choices within each management area allocation to determine the land uses and outputs of each alternative. The forest developed five prescription choices which are available to FORPLAN. These include:

"MINLVL" -- No regulated timber harvest
"OWLRIP" -- No regulated timber harvest
"250ROT" -- 250 year timber rotations on suitable lands
"125ROT" -- 125 year timber rotations on suitable lands
"GENFOR" -- Full economic timber yield on suitable lands

In contrast, the Umpqua National Forest uses 51 prescription choices in its FORPLAN model along with the addition of coordinated allocation choices. After reviewing the respective DEIS documents, it appears that the Umpqua's methodology increases the flexibility of the model and may result in more optimum land allocations within the alternatives. Unfortunately, the discussion of the Umpqua's prescriptions and their relationship to the management areas is complex and confusing for a reviewer of the planning documents.

On the Mt. Hood, the standard for foreground partial retention in Management Area B2 requires 200 year timber rotations. How is this requirement modeled in FORPLAN when the only long rotation choices are 125 and 250 years?

The Mt. Hood should consider whether minimizing the number of prescriptions to reduce model size and cost has also reduced the ability of the forest to formulate more creative alternatives. Given the narrow decision space of the alternatives and the continual inferences in the text that timber management is incompatible with any other resource use, this appears to be the case. The Final EIS, in response to comments received from the public, should provide more sophisticated choices and imaginative alternatives.

Fertilization - (App., pages B-33) Based on Regional direction, the Mt. Hood National Forest has not considered the benefits of a second fertilizer application which could potentially increase growth in both thinned and unthinned stands. This increased timber growth would also benefit nontimber resources such as visual and mature conifer habitat management since the tree size criteria for these prescriptions could be met at a younger age. Without an analysis discussing this potential, it is impossible to judge the adequacy of the forest's assumption. The costs and benefits of a second fertilizer application should be considered in the Final EIS.

Harvest Dispersion - (App., page B-93) The Mt. Hood has included a harvest dispersion constraint which assumes no more than 33 percent of a drainage can be harvested in a decade.

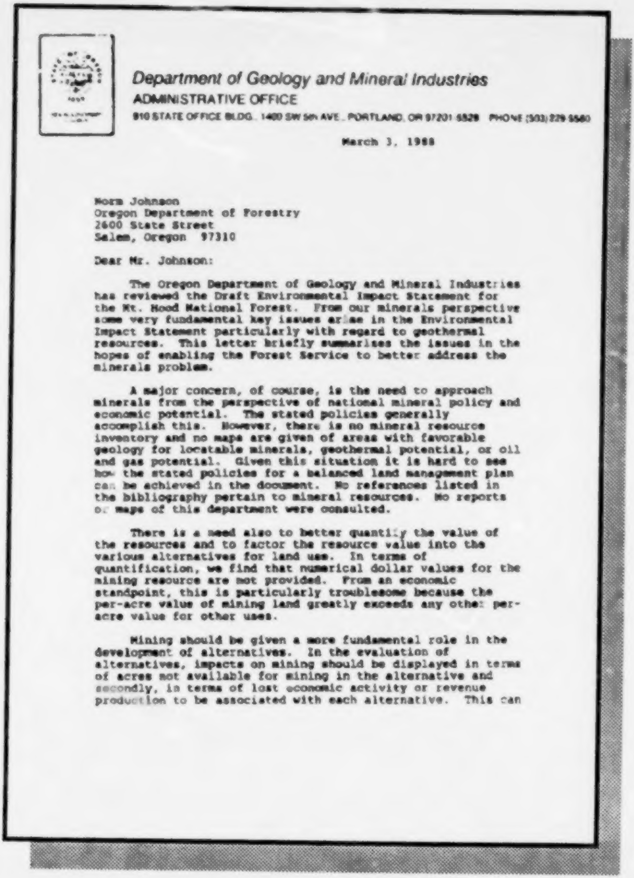
The Region's Planning Issues Task Force working paper describes an alternative to this assumption. The California Forest Practices Act uses a opening duration of 5 years. This is based on allowing 2 years for regeneration followed by a 3 year verification period to confirm adequate stocking has been achieved. The working paper concludes that:

--coordination of federal and local land use classifications and designations in area of scattered tracts and intermingled ownerships. Such coordination can relieve problems and expedite procedures involving land exchanges between various owners, transfers or leases to other agencies and the public sale of federally-owned holdings.

Norm, in the interest of time, this memo consolidates DLCD's issues identification and comments for the Mt. Hood (steps 3 and 4 on the review timetable). Please feel free to contact me if you have any specific questions concerning our comments on the Mt. Hood.

JBK
<eac>MT. HOOD.PRELIM.COMMENTS>

cc: James F. Ross
Craig Greenleaf
Bob Rindy
Jim Sitzman
Brent Lake



Department of Geology and Mineral Industries
ADMINISTRATIVE OFFICE
910 STATE OFFICE BLDG., 1400 SW 5th AVE., PORTLAND, OR 97201-5528 PHONE (503) 229-5580

March 3, 1988

Norm Johnson
Oregon Department of Forestry
2600 State Street
Salem, Oregon 97310

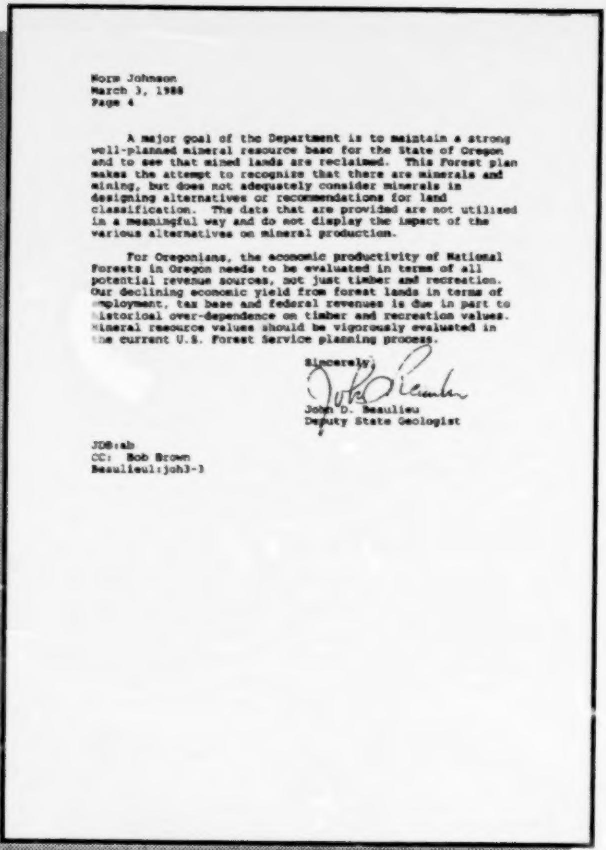
Dear Mr. Johnson:

The Oregon Department of Geology and Mineral Industries has reviewed the Draft Environmental Impact Statement for the Mt. Hood National Forest. From our minerals perspective some very fundamental key issues arise in the Environmental Impact Statement particularly with regard to geothermal resources. This letter briefly summarizes the issues in the hopes of enabling the Forest Service to better address the minerals problem.

A major concern, of course, is the need to approach minerals from the perspective of national mineral policy and economic potential. The stated policies generally accomplish this. However, there is no mineral resource inventory and no maps are given of areas with favorable geology for locatable minerals, geothermal potential, or oil and gas potential. Given this situation it is hard to see how the stated policies for a balanced land management plan can be achieved in the document. No references listed in the bibliography pertain to mineral resources. No reports or maps of this department were consulted.

There is a need also to better quantify the value of the resources and to factor the resource value into the various alternatives for land use. In terms of quantification, we find that numerical dollar values for the mining resource are not provided. From an economic standpoint, this is particularly troublesome because the per-acre value of mining land greatly exceeds any other per-acre value for other uses.

Mining should be given a more fundamental role in the development of alternatives. In the evaluation of alternatives, impacts on mining should be displayed in terms of acres not available for mining in the alternative and secondly, in terms of lost economic activity or revenue production to be associated with each alternative. This can



Norm Johnson
March 3, 1988
Page 4

A major goal of the Department is to maintain a strong well-planned mineral resource base for the State of Oregon and to see that mined lands are reclaimed. This Forest plan makes the attempt to recognize that there are minerals and mining, but does not adequately consider minerals in designing alternatives or recommendations for land classification. The data that are provided are not utilized in a meaningful way and do not display the impact of the various alternatives on mineral production.

For Oregonians, the economic productivity of National Forests in Oregon needs to be evaluated in terms of all potential revenue sources, not just timber and recreation. Our declining economic yield from forest lands in terms of employment, tax base and federal revenues is due in part to historical over-dependence on timber and recreation values. Mineral resource values should be vigorously evaluated in the current U.S. Forest Service planning process.

Sincerely,

John D. Beaulieu
Deputy State Geologist

JDB:ab
CC: Bob Brown
Beaulieu1:joh3-3

NEIL GOLDSCHMIDT
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310-1347

FOR IMMEDIATE RELEASE

May 16, 1988

Contact:

Bob Brown, 378-2504
Dept. of Forestry

Federal Plans Coordinator, K. Norman Johnson, today released the State of Oregon's proposed coordinated response to the U.S. Forest Service's draft plans for managing the Mt Hood National Forest over the next 10 to 15 years.

The response will be open to public review and comment until May 27, 1988. After considering any public comment, the Governor will sign the response and submit it to the Forest Service.

The State's proposed letter to the Supervisor of the Forest raises issues of concern to Oregon residents, asks for more detail, and questions assumptions underlying the USFS plan. Later in the year, Governor Neil Goldschmidt will offer the State plan for the Forest.

The Mt. Hood National Forest lies in Clackamas, Multnomah, Hood River, Wasco, and Marion counties.

The State identified these key issues on the Mt. Hood National Forest: recreation, timber production, water quality, fish production and visual quality.

The State asked the USFS to consider development of more recreational opportunities. Many members of the public, at meetings sponsored by the state and in letters, had urged these improvements in the USFS's Mt. Hood Plan.

The State noted that the U.S. Forest Service's "Preferred Alternative" would reduce the timber offering by 26 percent from the existing plan. This would cut heavily into wood products jobs. The State said the Forest Service should look again at what lands are suitable for timber production and how much timber the forest can produce.

(more)

The Governor noted that the U.S. Forest Service's "Preferred Alternative" would reduce the timber offering by 11 percent from the existing plan. This would cut heavily into wood products jobs. The Governor said ways need to be found to boost timber yields without harm to other commodities and amenities on the Forest. For example, he questioned the USFS assumption that much general forest acreage was unsuitable for reforestation.

Goldschmidt expressed deep concern that the USFS plan, because of analytical shortcomings, could significantly damage the quality of water from the Forest. The Forest is the main water source for hundreds of thousands of Willamette Valley residents. He urged the Forest Service to give more attention to the impact of its actions on key watersheds.

The Governor added that the plan was light on fishery analysis, leaving questions about the impact of the plan on Willamette River salmon runs.

Visual quality of major tourist routes and of areas around recreation sites might also be endangered by the plan, the Governor cautioned.

Goldschmidt asked the USFS to consider development of more recreational opportunities. Many members of the public, at meetings sponsored by the state and in letters, had urged these changes in the USFS's Willamette Forest Plan.

Key issues in the Umpqua National Forest Plan, the Governor said, are timber production, big game, fish, and recreation.

The Governor noted that the U.S. Forest Service's "Preferred Alternative" would keep the timber offering about the same as under the existing plan.

Goldschmidt questioned whether USFS techniques and data used to set timber harvest levels might increase conflicts among the various resources.

(more)

The Governor said the Umpqua Forest staff tried to do a thorough job on big game habitat needs, but did not consider some factors and alternatives that could change the recommendation.

Fish resource information is scanty in the Umpqua Forest plan, Goldschmidt said. This is a major flaw in view of the Forest's extensive anadromous fish resources, he said.

The Governor asked the USFS to consider developing more recreation opportunities, particularly around Diamond Lake and in the old Bohemia mining district.

Goldschmidt's responses to plans for the two forests were developed from: (1) public response at state-sponsored meetings and through letters; (2) staff recommendations from affected state agencies; (3) field inspections of the Forests by Norm Johnson, the Governor's Federal Plans Coordinator, and by other members of the Governor's coordinated response team; and (4) Forest Service responses to points raised by the public and by the state team.

Copies of the state's coordinated response to the Willamette National Forest Plan will be available after May 9 at:

Oregon Department of Forestry
3150 Main Street
Springfield, OR 97478

Oregon Department of Forestry
22965 N. Fork Road, SE
Lyons, OR 97358

Oregon Department of Forestry
2600 State Street
Salem, OR 97310

Oregon Department of Forestry
4690 Highway 20
Sweet Home, OR 97386

Oregon Department of Fish and Wildlife
506 SW Mill Street
Portland, OR 97207

Oregon State university
School of Forestry
Forest Management, Peavy 202
Corvallis, OR 97331

(more)

5/13/88

General File
7-2-3-300

OREGON STATE DEPARTMENT OF FORESTRY
REVIEW OF THE MT.HOOD NATIONAL FOREST'S DRAFT ENVIRONMENTAL IMPACT STATEMENT AND PROPOSED LAND AND RESOURCE MANAGEMENT PLAN

The Oregon State Department of Forestry's Resource Planning Section, in cooperation with other Department staff, has reviewed the Mt.Hood National Forest's Draft Environmental Impact Statement (DEIS) and Proposed Land and Resource Management Plan (LRMP). Our comments focus on five areas of importance:

1. Comparison of the DEIS alternatives with the basic objectives of the Board of Forestry's _Forestry Program for Oregon_ -- Page 2.

2. Coordination with Department of Forestry programs -- Page 3 .

3. Effects of the Mt.Hood's modeling assumptions and proposed activities on timber yields -- Page 5.

4. Economic considerations -- Page 19.

5. Needed clarification of planning direction -- Page 27.

A summary of this review is provided on page 34.

COMPARISON OF THE DEIS ALTERNATIVES WITH THE BASIC OBJECTIVES OF THE BOARD OF FORESTRY'S FORESTRY PROGRAM FOR OREGON

(DEIS, page II-45, App., page B-181) The Oregon State Board of Forestry's 1982 Forestry Program for Oregon (FPFO) contains three basic objectives for the management of national forest lands. They are:

1. Maintaining the maximum potential commercial forest land base consistent with other resource uses while assuring environmental quality.

2. Identifying and implementing economically feasible levels of intensive forest management required to achieve cost effective growth and harvest.

3. Maintaining community stability by considering the projected timber harvests from other ownerships in setting the harvest from national forest lands.

The Department of Forestry appreciates the discussion in the Mt.Hood National Forest DEIS devoted to the Forestry Program for Oregon. The forest has also done considerable work in attempting to construct an alternative which satisfies the Forestry Program objectives.

The comparison of the DEIS alternatives with the Forestry Program objectives, as shown in Table II-14, indicates that none of the Mt. Hood's alternatives meet these objectives. Alternative "C" performs the best in this comparison. The Department could not support this alternative as it is presented since it includes a sequential harvest flow constraint of 25 percent per decade. We recommend that all departure alternatives be constrained by a 10 percent decadal harvest change constraint.

None of the alternatives meet the timber harvest targets provided to the forest in a May 20, 1985 correspondence from the Department of Forestry. These targets were revised downward at that time to account for the reduction in the commercial forest land base on the Mt.Hood that had occurred since the 1980 Oregon Timber Supply Assessment was published.

These timber harvest targets for the first five decades are

Decade 1	82 MMCF/Year
Decade 2	81
Decade 3	79
Decade 4	78
Decade 5	78

harvested sites in the Northwest Forest Practices Region, which includes the western portion of the Mt. Hood. The Final EIS must revise this guideline to insure compliance with the Forest Practices Act. The Final EIS should also document what effect this higher minimum stocking level would have on future timber yields and other resource outputs.

EFFECTS OF MODELING ASSUMPTIONS AND PROPOSED ACTIVITIES ON TIMBER OUTPUT LEVELS

Minimum Management Requirements - (App., page B-88, G) The Board of Forestry has recognized in the Forestry Program for Oregon that forests are important for providing a full range of uses and benefits including wood production, water quantity and quality, recreation, wildlife, fisheries, and forage. As a result, the Board has adopted a policy to encourage and promote forest management practices which will maintain and enhance the full range of social and environmental benefits of the forest.

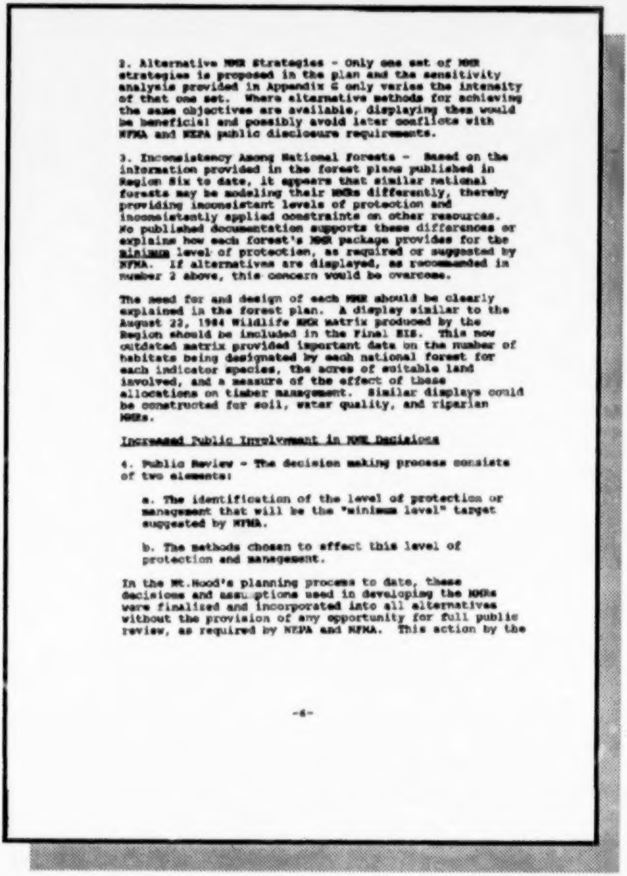
Based on this Board policy, the Department of Forestry supports the maintenance of viable populations of indigenous forest plants and animals. It is therefore appropriate that the U.S. Forest Service provides a minimum level of protection for forest resources in its national forest plans and presents the public with a range of alternatives which meet or exceed this minimum level.

However, the Department believes that two basic improvements in the application of minimum management requirements (MMRs) proposed for implementation by the Mt.Hood or the proposed revisions suggested by the Regional Office are needed. First, there is a need for further documentation and analysis by the Forest Service. Second, increased public involvement in the MMR decision making process must be permitted.

Please consider the following specific concerns and recommendations:

Need for Further Documentation and Analysis

1. Data Uncertainty - The credibility of the plan could be increased significantly if the MMR's were submitted to peer review. That review would help assure that the most current data and a broad base of professional expertise are reflected in the plan.



2. Alternative MMR Strategies - Only one set of MMR strategies is proposed in the plan and the sensitivity analysis provided in Appendix G only varies the intensity of that one set. Where alternative methods for achieving the same objectives are available, displaying them would be beneficial and possibly avoid later conflicts with NFMA and NEPA public disclosure requirements.

3. Inconsistency Among National Forests - Based on the information provided in the forest plans published in Region Six to date, it appears that similar national forests may be modeling their MMRs differently, thereby providing inconsistent levels of protection and inconsistently applied constraints on other resources. No published documentation supports these differences or explains how each forest's MMR package provides for the minimum level of protection, as required or suggested by NFMA. If alternatives are displayed, as recommended in number 2 above, this concern would be overcome.

The need for and design of each MMR should be clearly explained in the forest plan. A display similar to the August 22, 1984 Wildlife MMR matrix produced by the Region should be included in the Final EIS. This now outdated matrix provided important data on the number of habitats being designated by each national forest for each indicator species, the acres of suitable land involved, and a measure of the effect of these allocations on timber management. Similar displays could be constructed for soil, water quality, and riparian MMRs.

Increased Public Involvement in MMR Decisions

4. Public Review - The decision making process consists of two elements:

a. The identification of the level of protection or management that will be the "minimum level" target suggested by NFMA.

b. The methods chosen to effect this level of protection and management. 4

In the Mt.Hood's planning process to date, these decisions and assumptions used in developing the MMRs were finalized and incorporated into all alternatives without the provision of any opportunity for full public review, as required by NEPA and NFMA. This action by the

> "It is not apparent from the available documentation why the same standards used by the State of California would not satisfy this minimum requirement. ...[It] may be appropriate to address the implications of not having used this proposed standard."

The Department of Forestry requests that such an analysis be provided in the Final EIS along with field data on actual "closing time" measurements on the Mt. Hood National Forest. This information is needed to evaluate the harvest dispersion constraint.

Departure From a Nondeclining Even Flow Harvest Schedule - (DEIS, page II-14, App., B-102) The Mt. Hood National Forest correctly acknowledges that 36 CFR Part 219.16 provides direction to the Forest Service on utilizing timber harvest schedules in alternatives which depart from a nondeclining even flow schedule. Such alternatives are to be "...evaluated if it is reasonable to expect that overall multiple use objectives would be better attained".

Regional direction goes on to require consideration of departure alternatives in several specific situations. Among these are:

1. When timber harvests from other ownerships are expected to decline.

2. When needed to meet Forestry Program for Oregon objectives.

Clearly, these two situations exist on the Mt. Hood National Forest. They point out the necessity that a departure harvest schedule be given serious consideration in the decision making process.

The Mt. Hood has presented four implementable departure alternatives. However, the departures do not specifically address the harvest declines on northern Oregon industrial lands that are projected to occur between 2000 and 2030. Departure alternatives which accelerate harvests in these decades would be more useful than the first decade departures presented in the DEIS.

It is important to note that any of the alternative land allocations could be managed under a departure harvest schedule. Such departure schedules should be formulated so that they increase the level of timber harvest from 2000 to 2030 while existing private forests are growing to harvestable size. The Mt. Hood should also coordinate its timber harvest schedule with adjacent national forests and other public ownerships. This action will assure that the timber supply issue is addressed as effectively and efficiently as possible.

Coordinated departures which take into account the differing age distributions of these different ownerships should be considered. All departures should be regulated by a 10 percent decadal harvest change constraint to avoid the environmental, economic, and management disruptions that are likely with large changes in timber harvest levels.

Snag Management - (DEIS, pages IV-37,79) The text states that a minimum of 60 percent of the snag habitat potential will be provided in all alternatives. However, it is not clear if this is a forest-wide average or if all management areas will provide this habitat level. The descriptions of the management areas in the Appendices and in the LRMP do not discuss this issue.

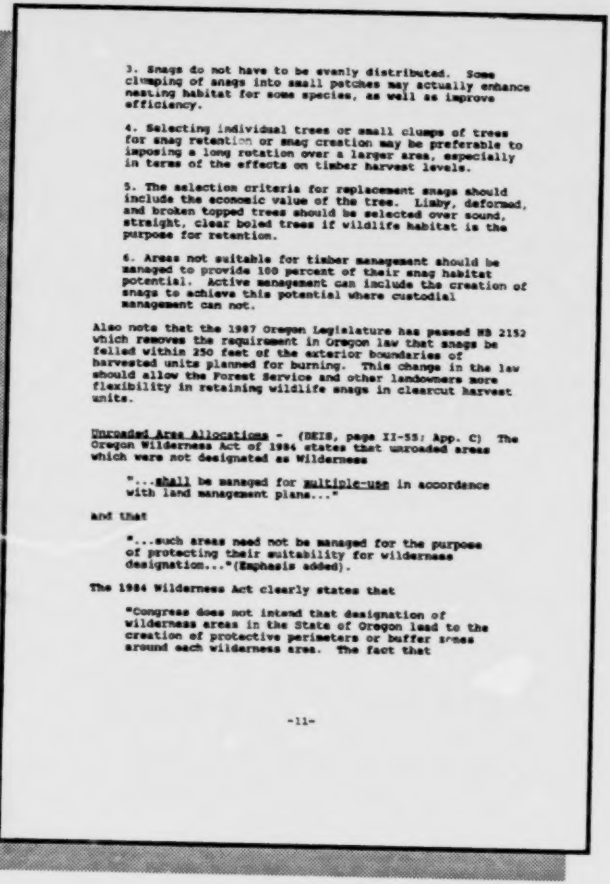
The cost of providing this 60 percent level of snag habitat on timber yields is not given in the DEIS. Since the MMR level for snag habitat is 20 percent, information on the costs and benefits of this higher level is important. If a 60 percent snag habitat level can be provided in all management areas without a reduction in timber harvests or a significant increase in fire risk, the Department of Forestry would support such a modification. The Final EIS should provide information on a range of snag habitat levels--such as 20, 40, 60, and 80 percent of the potential and the resulting effects on timber harvests, wildlife populations and other resources.

The Mt.Hood National Forest should continue to insure that its methods for providing snag habitat at or above the MMR level are as efficient as possible and that the chosen methods are the least constraining on timber management.

Two Forest Service publications, Wildlife Habitats in Managed Forests and Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington, discuss ways of providing snag habitat while minimizing the effects on timber management. Please consider these points:

1. High stumps may provide adequate habitat for some species.

2. Emphasizing snag retention downslope from roads protects snags from firewood cutting.



3. Snags do not have to be evenly distributed. Some clumping of snags into small patches may actually enhance nesting habitat for some species, as well as improve efficiency.

4. Selecting individual trees or small clumps of trees for snag retention or snag creation may be preferable to imposing a long rotation over a larger area, especially in terms of the effects on timber harvest levels.

5. The selection criteria for replacement snags should include the economic value of the tree. Limby, deformed, and broken topped trees should be selected over sound, straight, clear boled trees if wildlife habitat is the purpose for retention.

6. Areas not suitable for timber management should be managed to provide 100 percent of their snag habitat potential. Active management can include the creation of snags to achieve this potential where custodial management can not.

Also note that the 1987 Oregon Legislature has passed HB 2152 which removes the requirement in Oregon law that snags be felled within 250 feet of the exterior boundaries of harvested units planned for burning. This change in the law should allow the Forest Service and other landowners more flexibility in retaining wildlife snags in clearcut harvest units.

Unroaded Area Allocations - (DEIS, page II-55; App. C) The Oregon Wilderness Act of 1984 states that unroaded areas which were not designated as Wilderness

> "...shall be managed for multiple-use in accordance with land management plans..."

and that

> "...such areas need not be managed for the purpose of protecting their suitability for wilderness designation..."(Emphasis added).

The 1984 Wilderness Act clearly states that

> "Congress does not intend that designation of wilderness areas in the State of Oregon lead to the creation of protective perimeters or buffer zones around each wilderness area. The fact that

> nonwilderness activities or uses can be seen or heard from the areas within the wilderness shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area".

The Department of Forestry recommends that unroaded lands which support productive forests be returned to the suitable land base and that the timber volume from these productive lands be included in the regulated timber harvest schedule. In particular, the Roaring River and Salmon-Huckleberry areas have significant timber resources that should be available for management and harvest. More marginal tree growing sites, such as the Olallie/Mt. Jefferson area may be best assigned to non-timber allocations if they have a recreational value that exceeds their timber value. The information on the number of acres retained in an unroaded condition under each alternative during the next ten years and in the long term is not clearly presented. However, according to the table on page II-55 it appears that even under commodity alternative "B", 110,000 acres, or 85 percent, of the existing unroaded areas would remain undeveloped during the ten year life of the plan.

On the Mt.Hood, 55,450 acres or 5 percent of the forest would be retained in an unroaded condition in all alternatives to meet MMR requirements, and to provide semiprimitive and primitive recreation, research natural areas, wildlife habitat, and special interest areas. Timber harvests would be prohibited on these acres. This total would be in addition to the 185,300 acres of Wilderness lands on the forest, meaning that even under the most timber-oriented alternative 23 percent of the Mt.Hood could remain roadless in perpetuity. These lands should be managed to optimize the noncommodity values that they provide.

Old Growth Habitat - (DEIS, pages II-50, III-10, III-31) According to the Mt. Hood planning team, 50,900 acres, or 5 percent of the forest must be maintained as old growth to satisfy minimum management requirements. It is important to note that under the most aggressive timber alternative presented by the Mt.Hood ("C"), nearly four times the MMR level of old growth would be present after the 50 years. The text fails to mention that a much higher level of old growth would be retained during the ten year life of this plan.

From this analysis, two conclusions can be drawn. First, the potential exists to maintain timber harvest levels near the existing plan's potential yield and still provide an abundant reserve of old growth timber during the life of this proposed

The Department of Forestry recognizes that uneven-aged management is more difficult to implement than even-aged management. Organizationally, a greater commitment to excellence may be required within the Forest Service for these methods to be effective. However, this added difficulty should not affect the choice of harvest cutting methods. This decision should be based on what is best for the forest resources in light of the issues identified by the public.

Wild and Scenic Rivers - (Appendix E) Congressional intent for Wild and Scenic River corridors was to provide additional protection for 1/4 mile on each side of the river segment (1/2 mile total). The land allocations on the alternative maps indicate that the corridors allocated to Management Area B1 are up to two miles in width, with visual corridors extending even further.

The Final EIS should provide alternatives which include a range of Wild and Scenic River designations. Some of the alternatives should recommend designations which limit special protection to the intended 1/2 mile corridor. The public should be provided the costs and benefits of these choices.

Aquatic Habitat Condition Model - (DEIS, page IV-24, App., page B-45) The Appendices state that the Aquatic Condition Index "...is a reliable and specific way to estimate overall suitability of the aquatic resource". However, the DEIS also states that the model has not been field validated and includes numerous assumptions that are not given. Please consider the following points in the Final EIS:

1. Sediment is one of the four variables used in the model but the text states that the accuracy of the sediment index results are not substantiated.

2. No explanation is given to indicate how the alternatives were measured against the four variables and how the variables were weighted in the analysis.

3. It is unclear how the compatibility of management emphases with riparian area objectives is determined.

4. The public is given insufficient information to determine the meaning of the resulting index values.

This analysis appears to be very subjective and other, equally subjective analyses could be proposed which generate entirely different results. A more scientific, field validated analysis of this important issue is needed in the Final EIS.

Visual Management - (DEIS, page III-91; LRMP, pages 4-42, 4-153) The Mt.Hood has imposed constraints for visual management in most of the DEIS alternatives. Like the MMRs previously discussed, the standards and guidelines for visuals have been implemented without public review, without the exploration of alternative strategies, and without an adequate tradeoff analysis.

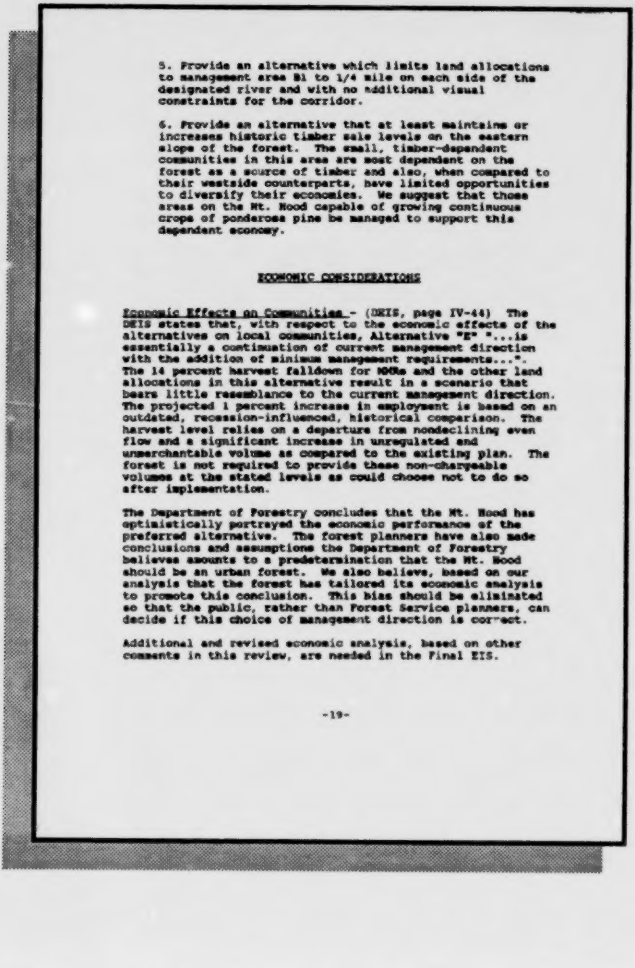
Clearly, such world class vistas as the Columbia River Gorge and Mt. Hood deserve a high level of visual protection. However, because timber outputs are directly affected by these requirements, the Department of Forestry is concerned about the effect on allowable sale quantity and the economic factors of the total visual management program on the Mt.Hood. For example, restrictive visual constraints could make road construction and the timber sales that these roads access more impractical and eventually uneconomical.

Please note the following concerns:

1. The Forest provides visual corridors along Wild and Scenic Rivers that average 3 to 5 miles in width, even though the Congressionally designated boundaries are only one-fourth of a mile on each side of the rivers. These additional visual corridors include background and unseen areas, yet these areas are assigned to a management allocation with very restrictive constraints on timber management.

2. The standards and guidelines for Partial Retention are extremely constraining on timber management. They include rotation lengths of up to 200 years. Retention rotation lengths average 250 years.

3. "Unseen" areas which are not visually sensitive are included in the Retention and Partial Retention management areas in the alternative. The DEIS is not clear in describing the management direction for these unseen areas.



5. Provide an alternative which limits land allocations to management area B1 to 1/4 mile on each side of the designated river and with no additional visual constraints for the corridor.

6. Provide an alternative that at least maintains or increases historic timber sale levels on the eastern slope of the forest. The small, timber-dependent communities in this area are most dependent on the forest as a source of timber and also, when compared to their westside counterparts, have limited opportunities to diversify their economies. We suggest that those areas on the Mt. Hood capable of growing continuous crops of ponderosa pine be managed to support this dependent economy.

ECONOMIC CONSIDERATIONS

Economic Effects on Communities - (DEIS, page IV-44) The DEIS states that, with respect to the economic effects of the alternatives on local communities, Alternative "E" "...is essentially a continuation of current management direction with the addition of minimum management requirements...". The 14 percent harvest falldown for MMRs and the other land allocations in this alternative result in a scenario that bears little resemblance to the current management direction. The projected 1 percent increase in employment is based on an outdated, recession-influenced, historical comparison. The harvest level relies on a departure from nondeclining even flow and a significant increase in unregulated and unmerchantable volume as compared to the existing plan. The forest is not required to provide these non-chargeable volumes at the stated levels as could choose not to do so after implementation.

The Department of Forestry concludes that the Mt. Hood has optimistically portrayed the economic performance of the preferred alternative. The forest planners have also made conclusions and assumptions the Department of Forestry believes amounts to a predetermination that the Mt. Hood should be an urban forest. We also believe, based on our analysis that the forest has tailored its economic analysis to promote this conclusion. This bias should be eliminated so that the public, rather than Forest Service planners, can decide if this choice of management direction is correct.

Additional and revised economic analysis, based on other comments in this review, are needed in the Final EIS.

Costs Used in the Economic Efficiency Analysis - (App., page B-60) The Mt. Hood's precommercial thinning cost of $359 to $406 per acre is significantly higher than costs assumed by other landowners and agencies. Cost estimates from the Forestry Incentives Program, and from the Department of Forestry's own land managers indicate that a cost of up to $110 per acre is appropriate for western Oregon. Private industry costs are even lower on industrial lands. Similar high variable costs are used in FORPLAN for reforestation and site preparation.

Even if lower costs do not affect the land allocations of the alternatives or the outputs produced, they do affect the present net value, returns to the federal government, and payments to counties that each alternative can provide. The

Mt.Hood should examine all cost estimates, especially those with high administrative cost components, and seek opportunities to reduce them to a level that is comparable to other landowners in the area.

Area of Economic Influence - (App., pages B-56,70) The Mt. Hood has confined its economic analysis only to the effects on adjacent counties. Induced jobs and incomes also have state and national effects. Just because the forest's input/output model does not track these effects beyond the counties considered does not mean that these effects do not exist. The Final EIS should expand its economic analysis to consider this issue.

Washington County has been incorrectly omitted from the Mt.Hood's area of economic influence. The economic effects of the forest's activities and outputs is not confined to county boundaries. By not considering Washington County, the Mt. Hood has misrepresented the economic importance of the forest to the Portland metropolitan area.

Induced jobs and income created by Oregon's national forest's also affect national levels of these parameters and indirectly affect the federal deficit. Given that the benefit/cost ratio of federal timber expenditures is approximately 1.7 to 1, the importance of the Mt. Hood's timber resource to the nation's economy must be addressed.

harvested from lands other than the Forest Service would decrease much more rapidly than documented in Table II-24. Detailed information should be provided by the Mt. Hood on this subject and public comment sought prior to making a final decision.

Changes in Employment and Receipts to Counties - (DEIS, page II-57) First decade employment changes appear to be based on 1977-1986 harvests from the Mt. Hood National Forest only and do not account for future decreases in private harvests. Employment level changes that are much more negative than those pictured in Figure II-14 will result if the timber availability on all ownerships within the area of influence was considered. The employment numbers also likely include recreation jobs which have lower per hour pay and which have fewer hours worked per week. They would be lower paying than lumber and wood products jobs. In the Final EIS, the Mt. Hood should graph changes in personal income as well as employment. More documentation is needed for a thorough analysis of this important subject.

Timber Employment - (DEIS, page III-43) Table III-17 may not accurately portray timber-related employment because employment attributed to national forest timber is assumed to be proportional to the proportion of national forest volume harvested in the respective counties. This may be the case in some of the counties but not in Wasco County, according to 1985 data. National forests accounted for 43% of the volume harvested and 52% of the volume processed in this county in 1985. Assuming employment to be proportional to harvests understates the employment dependence on national forest timber by approximately 21%.

The entire analysis of timber demand in this section of the DEIS is outdated and the assumptions in many cases are incorrect. The Final EIS should reevaluate this issue, updating and correcting the analysis.

Timber Supply - (DEIS, page III-46) The DEIS states that the Pacific Northwest may be able to meet future demand for timber. However, the text fails to point out that the equilibrium price for stumpage may be so high and the supply curve so inelastic as to brutally limit production, causing severe economic and social dislocation, particularly in rural areas of the northwest.

Private/Public Land Interrelationships - (DEIS, page III-49) This timber availability analysis is incorrect. Timber for Oregon's Tomorrow (Beuter Report) projected timber availability in cubic feet. The Forest uses the same percentage changes projected, but applies them in board feet. Since the diameter harvested for second growth stands at 55 years, approximately the age class projected for harvest as private second growth, will be much smaller, the timber volume projected to be available is dramatically overstated.

The analysis is also incorrect in that it applies the average decline of 10 percent in timber availability to owners other than the Ft. Hood National Forest. In fact, in the Beuter Report, the 10% included the Mt. Hood, which was shown to have been able to increase its timber harvest by approximately 30%. Harvests from other owners were projected to drop dramatically, by more than 50% in cubic feet rather than 30% in BF.

There are other problems in this analysis. For example, nonindustrial private harvests are expected to increase in spite of the increasing urbanization so thoroughly documented by the forest and the lack of manageable stands on the nonindustrial ownership.

Clearly, the Mt. Hood must revise this analysis prior to the Final EIS to more accurately describe future timber availability and the resulting economic impacts.

Timber Demand - (DEIS, page III-53) The Forest states that "Industry did not cut all the timber it purchased primarily because the demand for wood products was not as high as the amount of timber available for harvest." This is misleading because industry bid on these sales for cutting up to six years in the future. Lumber and plywood prices fell during that six year period, rather than rising and the timber became uneconomical to harvest. The equilibrium price for stumpage fell but it all would have been harvested had there been no market imperfections. It is incorrect to analyze demand and supply without considering prices, market imperfections, etc. The Mt. Hood has considered only quantities.

Effects on Communities - (DEIS, page IV-41) The economic comparisons in the text are based on average historical outputs. This is irrelevant since the timber supply situation is changing. The Mt. Hood is currently, and will increasingly be, relied on for a larger share of the area's timber supply.

The Final Plan should also provide the analysis required by former Chief Peterson in his January 12, 1987 memorandum to the Regional Forester. The memorandum, entitled "Planning the Management Of the Timber Resource on National Forest Lands", provides specific guidelines for improving the discussion of timber supply/demand relationships by acknowledging recent events, changed conditions, and new information. Increased remodeling demand, lower interest rates, Canadian stumpage pricing, and the Staggers Act are all examples of such changes. As Chief Peterson stated, "...the rationale [behind the forest's conclusions] must be clearly articulated in the appropriate planning documents and our assumptions regarding potential future demand be reasonable and supportable".

Dependence on Larger Forest Budgets - (DEIS, page II-54) The preferred alternative calls for an annual budget which is significantly higher than under the "current direction" alternative. No information was given as to how either of these budgets compare to historic levels. The Mt. Hood should consider the contingency that this level of appropriations may not be approved by Congress. The plan provides no information on how the Mt. Hood's activities and outputs would be modified if funding is not approved.

Without the inclusion of a budget constraint in the FORPLAN model, the capability within the model to provide more efficient solutions cannot be explored. A full range of possible management intensities may not have been presented. Therefore, the tendency under a reduced budget would be to cut programs rather than to manage the forest differently.

A series of FORPLAN analyses for each alternative in the Final EIS utilizing multiple levels of budget constraints could provide information on such management options. These analyses will allow the forest plan to be implementable under a wider range of future conditions. Disclosure of such detailed analyses will also help the Mt. Hood satisfy NEPA requirements.

NEEDED CLARIFICATION OF PLANNING DIRECTION

Forest Standards and Guidelines - (LRMP, page 4-143) The forest's standards and guidelines are often very general and vague. Since these guidelines are the basis for field implementation on the plan, they should be as clear and specific as possible.

The Category B management areas particularly need improvement because these allocations allow regulated timber management, but only at reduced levels. In most cases, it is impossible to understand what these intended levels of timber management will be. For example, for management area B6 (Special Emphasis Watersheds) timber management plans "...shall reflect considerations for accomplishment of riparian management objectives". How will the field forester know when this objective has been achieved?

For management area B9 (Wildlife/Visual Areas) timber management is to be constrained "... by wildlife and visual standards..." and shall leave the forest "...in a natural appearing condition". When referring back to the wildlife standards, the only specifics given are for snags. The visual standards provide no numerical standards. The Final EIS should revise these standards and guidelines so that they are meaningful to the public and to the field staff.

__Big Game Management__ - (DEIS, page IV-37) The Final EIS should provide the following information on big game management:

1. The Oregon Department of Fish and Wildlife deer and elk management objectives for the Mt. Hood.

2. The effect of increased seasonal and/or permanent road closures in the commodity oriented alternatives on the amount of useable big game habitat.

3. The effect on timber and big game of intensively managing only the most critical winter ranges for big game.

This additional data will allow the public to judge the accuracy of the Mt. Hood's assumptions.

__Timber Inventory__ - (DEIS, page III-49, IV-13) The discussion of resource trade-offs among the Mt. Hood's proposed alternatives should include information on the long-term effects of these alternatives on the timber resource. Data on the relationship between timber inventory, harvests and growth, as well as the changes over the planning horizon in the number of working group acres by age class for each alternative should be provided in the Final EIS. These reports are readily available from the FORPLAN model (Reports 10.6 and 10.8) and should be constructed to provide this information for suitable, tentatively suitable, and total forested lands.

The "No Change" Alternative - (DEIS, page II-15) The addition of the "No Change" alternative by the Forest Service is an attempt to address the concerns raised by the Northwest Forest Resource Council in its appeal of the formulation of the "Current Direction" alternative. These concerns, many of which are also voiced by this Department, involved the legal adequacy of a "no-action" alternative that included new yield tables, a new land suitability analysis and the addition of MMR constraints.

The Department appreciates the efforts of the Mt. Hood to provide a meaningful alternative which, in our opinion, more adequately satisfies the requirements of NEPA and NFMA. On other national forests, the existing plan's potential yield has been used as the basis of this alternative. The potential yield under the existing plan is directly comparable to allowable sale quantity in the proposed alternatives since both represent a "ceiling" on the amount of chargeable timber that can be sold.

By using a harvest level of 339 MMBF rather than the existing potential yield of 384 MMBF, the Mt. Hood National Forest has misrepresented the change that will occur in this timber harvest ceiling through the selection of a different management alternative. Still, the No Change alternative comes closer to providing a historical reference than Alternative "A", which proposes an allowable sale quantity that is 110 MMBF less.

The Department requests that the existing plan potential yield be used in this alternative's formulation and that the resulting outputs be revised.

Research and Information Needs - (LRMP, page 2-34) The Forestry Program for Oregon encourages research to improve forest productivity, the economics of intensive forest management, and to identify the habitat needs of old growth preferring wildlife. The Department of Forestry supports the research and information needs outlined by the Mt. Hood in the LRMP. Highest priority should be given to research that could:

1. Develop new technology to return some of the 28,177 acres removed from the suitable land base because of regeneration difficulty and the 28,320 acres removed from the suitable land base because of potentially irreversible resource damage back to timber management status.

2. Improve the knowledge of the habitat needs of old growth preferring wildlife species.

3. Improve the forest's capability to estimate supply and demand relationships for Mt. Hood timber.

4. Further refine and improve the forest's timber yield tables.

6. Improve the knowledge of big game habitat needs.

C1 **MANAGEMENT AREAS** - (DEIS, page III-87, IV-59; Alternatives G and E map) The DEIS map of the proposed Alternative "I" shows a number of relatively small C1 areas interspersed between the large unroaded areas set aside for Wilderness (A2), Scenic Viewsheds (B2) and similar uses. This management direction gives the impression that forest management is applied to this portion of the forest as an afterthought. However, we believe that the area northeast Mt Hood in Township 2 South Range 9 East should be designated for its recreational and historic features because of its proximity to the Cloud Cap Inn and Cooper Spur area. This special interest area is proposed for designation only in Alternative "I" however public pressure may preclude full timber production in an historic site with features of a bygone recreation era.

With the growing recreational pressure that the Mt Hood area is experiencing, it would appear that the best use for the area between Government Camp and Timberline Lodge would be for winter recreation instead of regular timber management. Concentration of future recreation opportunity in area adjacent to high recreation winter use is a departure from previous plans and should be discussed in the EIS. While we have a concern about the adequacy of forest planning shown in the scattered nature and relatively small size of Timber Emphasis areas in this portion of the forest we do not believe the Coopers Spur area is correctly presented.

Monitoring and Evaluation - (LRMP, Chapter V) The Mt. Hood's proposal for monitoring and evaluating the forest plan, once it is implemented, is one of the most important sections of the planning documents. Funding for this important program should be given a high priority by the forest.

Some areas of the monitoring and evaluation program require revision. First, changes in certain wildlife populations will trigger changes in the plan only if they decline. What if, in the future, we learn that the acres of old growth set plan. Second, it seems that the Mt.Hood has presented a very narrow range of alternatives for public review. A broader "decision space" of choices should be provided in the Final EIS. The result would be a planning document that more closely meets the intent of NEPA and NFMA.

The DEIS assumes that old growth timber is needed to maintain satisfactory aquatic and big game habitat conditions. More information is needed to support this assumption. Stream side shading, large woody debris, and big game thermal cover can be provided by managed second growth forests as well as by old growth. This perception by the Mt. Hood, that timber management is incompatible with fish and wildlife management, should be reevaluated.

Timber Yield Tables - (App., page B-34) The Mt.Hood National Forest should consider the use of the Stand Projection System (SPS) yield simulator for Douglas-fir stands on the forest. This state-of-the-art simulator may project higher timber yields than DP-DFSIM for some identical regimes.

SPS also has the capability to model stands with less than 300 trees per acre and to therefore explore planting and commercial thinning opportunities which may reduce stocking below this level. DP-DFSIM does not allow simulation of management regimes which incorporate a lower initial stocking which, especially on steep slopes, may be more cost effective.

The Mt.Hood's empirical yield tables were developed using a process that the Region 6 Planning Task Force working paper described as a "make do" system which includes "...the statistically undesirable feature of interacting regression equations". Growth models, such as SPS would provide a more valid and accepted mechanism for estimating these yields. The Forest Service should investigate the potential of this new model for both empirical and managed yield tables and utilize it where it is applicable.

The Final EIS should also discuss and justify the forest's incorporation of a 5 percent "basal area cap" on regression equation estimates. These two assumptions could significantly influence the resulting timber yield projections and indicate that problems may exist in the development of the Mt.Hood's empirical yield tables.

Timber Inventory - (DEIS, page II-4) The Mt. Hood's forest plan is based on a timber inventory completed in 1972, the second oldest in Region 6. Adjustments to this timber inventory over the years are among the primary reasons for the dramatic reduction in timber harvest levels proposed by most of the DEIS alternatives when compared to the existing timber management plan. The planning team has stated that a new inventory will be conducted in 1988 to update this important information.

The Department of Forestry supports this new inventory effort and urges its rapid completion so that its results can be used to amend the implemented forest plan early in the first decade. The methodology of this inventory should be made available for public review early enough in the process that significant public input can affect the inventory design.

Harvest Cutting Methods - (DEIS, page III-55) The Department of Forestry supports the flexible, site specific approach to the selection of harvest cutting methods required by the Regional Guide. The Mt. Hood National Forest is encouraged to maintain this flexibility in the forest plan. When determining the harvest cutting method, economic benefits to the forest and the timber purchaser should be considered as well as logging feasibility, stand characteristics, silvicultural response, and the effects on other resources and their uses.

While stands dominated by lodgepole pine or Douglas-fir respond best to even-aged management, some of the eastside mixed species and ponderosa pine stands on the forest might be effectively and efficiently managed through either even-aged or uneven-aged (multi-aged) systems. A choice of harvest methods allows the silviculturist to tailor management prescriptions so as to best meet multiple resource objectives.

Both even-aged and uneven-aged silvicultural systems should be analyzed for their ability to maintain the high value-added primary and secondary processing industry sectors in the long term. In addition, uneven-aged management should be considered to maintain timber yields in those areas where clearcutting is proposed to be limited or prohibited to accommodate or benefit other resource uses.

The issue of harvest cutting method selection has been given significant emphasis by the public in other parts of the state. The Mt. Hood should examine the analysis work done by the Deschutes National Forests on this subject as well as of Region 5 forests and the practices of nearby industrial timber owners. The Mt. Hood plan should strive to improve the knowledge of uneven-aged management application through silvicultural research, refined yield tables, and economic analysis.

Neither the DEIS or the planning team have discussed the economic cost of these constraints within the alternatives in terms of present net value, returns to the federal government, and payments to counties. It is likely that reductions in these critical valuation measures would be very significant.

The Department of Forestry requests that the following information be provided in the Final EIS by the Mt.Hood:

1. A summary of the costs, in terms of present net value and allowable sale quantity, of the level of visual management included in each of the DEIS alternatives.

2. An analysis of the tradeoffs that would occur if the visual management diameter and harvest dispersion constraints were increased, reduced, or eliminated.

3. An explanation of how the rotation length, diameter and harvest dispersion requirements were selected.

4. A summary of the anticipated recreation use, by decade, of each corridor designated for visual management.

Board Foot Cubic Foot Ratios - (App., page B-34) The Mt. Hood used a constant board foot/cubic ratio across all alternatives (except for Alternative "NC"). It is totally unrealistic to assume that Alternative "C" would have the same ratio as Alternative "H" which does not schedule any old growth timber harvest.

Even though the timber outputs of the alternatives are based on cubic feet, the economic analysis and the budgeting process in Congress are based on board foot volumes. Therefore, the distortions created by this assumption are significant and should be corrected before the Final plan alternative is selected.

Unlike other national forests, the Mt. Hood did not estimate allowable sale quantities in board feet after the first decade. Since this was done for total volume, it is unclear why this information could not be provided for ASQ. At the same time, the forest did not estimate future total cubic foot volumes after the first decade. FORPLAN should be able to generate this information given proper conversion ratios.

Documentation on tree sizes projected for harvest as well as how these conversion ratios were developed is important to our review of the plan and should be provided. The Mt. Hood should also demonstrate that the board foot volume harvests proposed by the DEIS alternatives will actually occur if these alternatives are implemented.

DEIS Alternatives - (App., page B-121) The alternatives presented in the DEIS do not represent all possible land allocations that could be implemented to address the issues raised by the public. More creative approaches exist which could lead to more balanced alternative choices that promote rather than discourage multiple-use management. For example, within the decision space provided by Alternatives "B", "C", "D", "E", and "G", the following modifications could be made to create new choices for public review:

1. Provide an alternative which allocates the Columbia Gorge portion of the forest to Management Area B2. The DEIS alternatives recommend either full yield timber management or no regulated management at all. A third option would be regulated management using longer rotations to insure scenic protection.

2. Provide an alternative which allows regulated timber management in the Bull Run watershed but not at the high intensity suggested in Alternative "C". Timber harvesting under this suggested scenario would be permitted to the extent that the greater goal of providing treatable water could be achieved in perpetuity.

3. Provide an alternative which constrains timber management for visuals only in the Columbia Gorge, Lost Lake, Highway 26 West, Highway 35, and Lower Clackamas viewsheds. The current alternatives either provide no visual protection on suitable lands or constrain many more acres than are included in these five areas described in the DEIS as the most critical.

4. Provide alternatives, or at least information, that would illustrate the differences in outputs, costs, and benefits that would result if Alternatives "B", "C", and "D" were formulated under a nondeclining even flow harvest schedule or with a 10 percent harvest change constraint and harvest floor as close as possible to the sustained yield capacity.

Historical Data Used in the Economic Analysis - In several instances the forest has used data which is outdated or incorrect. Examples include:

--(App., page B-70) Using 1960 and 1970 data to document population losses for Hood River and Wasco Counties.

--(App., page B-74) Using 1972 and 1982 data to present exaggerated and outdated conclusions about the proportion of direct lumber and wood products employment in the Portland metropolitan area.

--(App. page B-80) Using outdated data to inaccurately describe employment trends. For example, contrary to the statement that there has "...been a decline in total demand for Oregon wood products..." the last two years have enjoyed record demand for these products.

--(App., page B-85) Using data from the recession years of 1981 to 1984 to determine returns to the U.S. Treasury and local governments rather than allowing FORPLAN to calculate these outputs directly from future harvests.

--(DEIS, page III-42) Both Table III-15 and Table III-16 use data from the recession years to describe historic payments to counties.

--(DEIS, page III-44) Using 1950 and 1970 data to indicate productivity improvements in the paper, lumber and wood products industries.

More recent information including data relating to current conditions, or historically, from the years 1977 to 1987, should be used in the analysis provided in the Final EIS. The conclusions resulting from the use of outdated information should be revised.

The Mt. Hood Corridor - (App., page B-76) The text states that "The corridor was originally logging country, but as private land was cut over, employment shifted to service and recreation". The implication is that because of a lack of private timber, people had to go to work in service jobs. No documentation is provided showing that employment has shifted, that lumber and wood products employment has decreased, or that private timber harvests have decreased.

In fact, recreation employment has grown in this area largely because of increasing demand for recreation and related supplies and services. Timber harvests in Clackamas County have not decreased, except in the recession years of the early 1980s (See Attachment 1).

The Final EIS should reconsider these assumptions and revise the economic analysis as needed.

__IMPLAN Coefficients__ - (App., page B-44) Insufficient information is provided to properly evaluate the IMPLAN response coefficients used by the Mt. Hood. Nevertheless, the 12.46 jobs per MMBF given on page B-43 differs from the 15.3 jobs per MMBF used in Table B-V-5. Are there competitive production functions between timber production and the production of other forest outputs? Are the response coefficients for pulp and paper and lumber and wood products complementary or competitive with each other?

The text states that a million board feet of lumber could provide 4 direct jobs. Why is the forest analysing lumber instead of timber harvested, especially since much of the Mt. Hood's timber is used to make plywood? If this is an error in the text, it should be corrected to indicate that a million board feet of timber will provide 6 to 7 forest industry jobs rather than 4.

The Final EIS should clarify these issues.

__Timber Supply in the Four County Area of Influence__ - (DEIS, page II-56) The analysis on Table II-24 may be misleading for two reasons. First, it is noted that the average total harvest supplied during the 1977-1980 period was 549 MMBF per year and 465 MMBF between 1981 and 1984. Alternatives A,B,C,D,E and G are said to meet communities minimum needs during the first decade of the Forest Plan. This is incorrect because more timber would have been processed during this period if stumpage had been available at prices at which mills could process it at a profit. The minimum "needs" were actually much higher as was evidenced by the double digit unemployment rates. Note that 1986 harvests were 647 MMBF, far above the "maximum" demand tallied by the Forest.

Also, the DEIS does not adequately discuss "other supply" but it is interesting to note that it is tabulated in MMBF. The yield tables and outputs from __Timber for Oregon's Tomorrow__ were in cubic feet, not board feet. Since the TREES model Beuter and others formulated allowed harvests at ages younger than 55 years, the BF/CF ratio would decrease rapidly over the decades. Therefore, it appears that the board feet

The statement on page IV-42 that forest-related employment is roughly 7% of the total work force and that gains or losses in forest-related jobs would produce a minor impact is misleading. How the 7% is arrived at is not documented, but by backing the numbers out of the total number of workers in the forest's area of influence, it is apparent that 7% refers only to direct employment. Adding nondirect employment would mean that approximately 21% of the total work force is dependent on the Mt. Hood National Forest.

Below Cost Timber Sales - (DEIS, page III-54) The Mt. Hood has provided a good discussion of the below cost issue on the forest, but without documentation, the only conclusion that can be supported is that old growth timber sales on the Mt. Hood cover their costs. Additional analysis by the forest is needed. Information needed by the public includes the percentages of sales and volume that are below cost, the amount of cross-subsidization that occurs, a historical perspective, and the treatment of this issue by the alternatives.

Timber Costs and Benefits - (App., pages B-58,63) It is difficult from the discussion in the text to determine the assumptions behind the timber costs and benefits used in the FORPLAN model. On other national forests, logging costs were derived from timber sale data while pond values were based on harvested sale data. It is not possible to determine from the text if logging costs were also based on appraisals of sold volume or on data from timber sales actually harvested. If different data sources were used for these two factors on the Mt. Hood, with its large proportion of returned sale volume, a distorted economic analysis could result.

Both stumpage value and logging costs should be based on harvested volume instead of sold volume so that timber sales which were returned to the Forest Service under the provisions of the Timber Contract Payment Act of 1984 are appropriately included in this analysis. Stumpage values were based on data from the years 1977 to 1983. A broader and more recent historical reference, such as 1977 to 1987 should be used as the source of these values in the Final EIS.

National and Regional Timber Demand and Supply Projections - (App., page B-57) Timber availability projections for Oregon predict large drops in timber harvests on industrial ownerships during the next several decades. Recent mortality and growth loss resulting from the spruce budworm infestation in eastern Oregon will worsen this situation.

This decreased supply comes at the same time as demand for wood products is predicted to increase. For example, current building remodeling is expected to utilize 15 billion board feet (BBF) of the total 50 BBF of United States lumber consumption. At the same time, the 15 percent surcharge on Canadian lumber imports will reduce this imported supply source. Recent projections by Clear Vision Associates show that the bid price for westside Douglas-fir Forest Service stumpage is expected to jump from $187 per thousand board feet (MBF) in 1987 to $224 per MBF in 1988.

Japanese housing starts will total 1.71 billion in 1987, more than is expected this year in the United States. Because of the lowering of the value of the dollar relative to the yen, American lumber and logs will be more attractive in the Japanese market. The import share of softwood timber arrivals at Japanese sawmills is expected to increase from the 1985 level of 53 percent to 60 percent in 1988.

Douglas-fir log exports to Japan from Oregon and Washington in 1988 are expected to be 19 percent higher than in 1987. Total overseas exports from the two states will be more than 3 BBF next year.

These trends indicate that competition for a scarce resource, Oregon's timber stumpage, could increase dramatically in the coming years, benefiting those owning standing timber. Those companies without adequate fee timber could be severely damaged, unless adequate supplies of timber are available from the public ownerships in Oregon.

With this intense competition for public stumpage, it is unrealistic for the Mt. Hood to conclude that a horizontal demand curve exists for the forest's timber. A demand function could be calculated for use in FORPLAN. If this is not possible at a forest level, it is possible at a timbershed level. Region 6 is already using models for this purpose in their projected analysis of the cumulative effects of the forest plans. A similar analysis should be incorporated in the Final EIS for the Mt. Hood National Forest and provided to the public for review.

The alternative to recognizing the possibilities for increasing demand for public stumpage is a return to the destructive speculative bidding of the late 1970s. Such an action combined with restrictive monetary and fiscal policies on a national level could force Oregon's economy into another recession.

It is essential that the Mt. Hood insure that age gaps in the timber inventory are not artificially created. According to the Region 6 Task Force Working Paper on planning issues, artificial age gaps could result from inaccurately portraying any of the following factors:

1. The number of acres of timber not yet merchantable.

2. The volume and growth rates of merchantable stands.

3. The time required for presently immature stands to reach 95 percent of culmination of mean annual increment.

4. The time required for newly planted stands to reach 95 percent of culmination of mean annual increment.

5. Age class assignments in the model.

The Final EIS should document that these factors have been modeled accurately and explain how the first period FORPLAN inventory and growth corresponds with the most recent empirical yield tables and field inventory plot data. The Final EIS should also discuss the statistical validity of breaking the inventory down into individual analysis areas and the effects of this action on FORPLAN outputs.

Road Management - (DEIS, pages III-64, III-66, IV-40) Although not identified as a planning issue, road construction and use is an important public issue on the Mt. Hood National Forest. The Mt. Hood has modeled several alternatives in the DEIS that maintain high numbers of open roads, even though aggressive use of road closures is possible in all the alternatives. The Department of Forestry supports a transportation policy which recognizes the importance of closing unneeded existing roads either seasonally or permanently and designing new roads to the minimum standard necessary to meet management and safety considerations.

Benefits of regulated road closures include:

1. An increase in the amount of effective big game habitat.

2. Improved animal hiding cover effectiveness.

3. More opportunities for high quality, semi-primitive hunting experiences.

4. Reduced conflict between timber and big game management.

5. Reduced road maintenance costs by reducing hunter traffic during wet fall months.

6. Reduced potential for adverse effects on water quality from forest road use.

The DEIS correctly states that it is the use of roads, not the existence of the roads themselves, which significantly affects big game habitat. The Final EIS should emphasize this point and strive to manage road development and wildlife habitat so that both can coexist on the forest.

The Final EIS should also provide more information on the recreation use of forest roads paid for by the timber program. It appears that roads built to access timber sales are being built to higher design standards than necessary for logging access. Yet, the timber program is called upon to pay the full construction costs of these roads. The roads designed for recreation use often involve wider road widths and more excavation. Therefore, these roads are more visually evident and potentially produce more sediment than if they were built to minimum standards for timber access. Has the forest considered the effects of these high standard recreation roads on the resource costs and benefits in the plan? Our review concludes that the forest has charged the timber program for all the costs of these recreation use roads and blamed the timber program for any adverse effects that result.

Roads also provide vital access on this rugged forest which is valuable in reducing the losses and costs from wildfires, even if these roads are closed to public use. This summer's fire experience in southwest Oregon graphically demonstrated that the ability to quickly contain and control forest fires is directly proportional to the amount of road access. The Final EIS should also discuss the importance of roads in providing access vital to protecting all of the Mt. Hood's valuable resources from wildfire.

Current Timber Management Plan Suitable Land Base - (DEIS, page III-50) The DEIS states that the existing suitable land base for timber production under the present plan is 656,000 acres. The Mt. Hood's Analysis of the Management Situation cites this acreage as 733,104 acres. What has happened to the missing 77,000 acres? The forest should not modify the definition of commercial forest land used in the existing plan. To do so creates the impression that the Mt. Hood is attempting to hide the continuing reallocation of forest lands to nontimber uses. The Mt. Hood should provide an explanation of this discrepancy.

aside as spotted owl management areas provide greater owl populations that anticipated? Will the monitoring program recognize this and relax the constraints on other resources that are reserved to provide owl habitat?

Second, some economic criteria are missing entirely from the monitoring program. Jobs numbers, personal income, and returns to counties should be monitored along with job numbers using a variability standard of 10 percent.

Please refer to the Department of Forestry's November 6, 1986 correspondence to the Regional planning staff (See Attachment 3) for additional comments on this important issue.

SUMMARY

1. Alternatives "E", "B", and "NC" are the only DEIS alternatives that come close to meeting the objectives of the Forestry Program for Oregon. The potential exists for the Mt. Hood to craft additional alternatives in the Final EIS which fully satisfy the FPFO objectives and provide a balance of resource uses, benefits and values.

2. The forest plan should demonstrate closer coordination with Department of Forestry programs, particularly in the areas of fire management, smoke management and riparian area protection.

3. Planning assumptions and decisions on the subjects of minimum management requirements, prescription choices, fertilization, harvest dispersion, harvest scheduling, snag management, unroaded area allocations, old growth habitat, timber yields and inventory, harvest cutting methods, wild and scenic rivers, aquatic habitat conditions, visual management, and board foot/cubic foot ratios all have a direct effect on timber output levels. These assumptions and decisions require additional discussion and potential revision in the Final EIS.

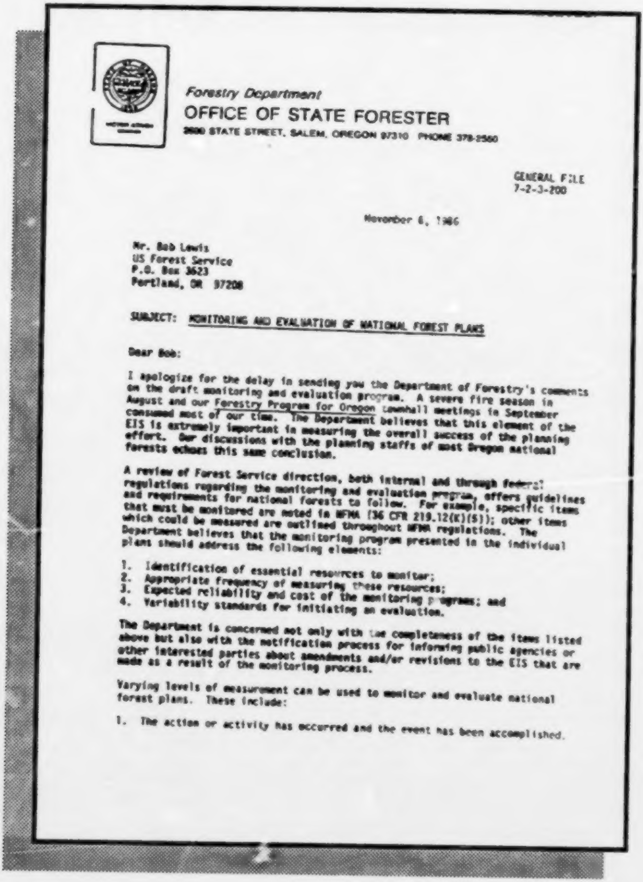
4. More creative alternatives should be considered which better address issues identified by the public.

5. Shortcomings in the Mt. Hood's economic analysis have likely distorted the costs and benefits associated with the DEIS alternatives. In particular, the assumptions on timber supply and demand may be underestimating the importance and the contributions of this output from the Mt. Hood National Forest to Oregon's economy.

6. Additional or revised information should be provided in the Final EIS in the areas of the forest's standards and guidelines, big game management, timber inventory, the current suitable land base, the "No Change" alternative, road management, research needs, special interest areas and the Mt. Hood's monitoring and evaluation program.

DM GL

Attachments



Forestry Department
OFFICE OF STATE FORESTER
2600 STATE STREET, SALEM, OREGON 97310 PHONE 378-2560

GENERAL FILE
7-2-3-200

November 6, 1986

Mr. Bob Lewis
US Forest Service
P.O. Box 3623
Portland, OR 97208

SUBJECT: MONITORING AND EVALUATION OF NATIONAL FOREST PLANS

Dear Bob:

I apologize for the delay in sending you the Department of Forestry's comments on the draft monitoring and evaluation program. A severe fire season in August and our Forestry Program for Oregon townhall meetings in September consumed most of our time. The Department believes that this element of the EIS is extremely important in measuring the overall success of the planning effort. Our discussions with the planning staffs of most Oregon national forests echoes this same conclusion.

A review of Forest Service direction, both internal and through federal regulations regarding the monitoring and evaluation program, offers guidelines and requirements for national forests to follow. For example, specific items that must be monitored are noted in NFMA (36 CFR 219.12(K)(5)); other items which could be measured are outlined throughout NFMA regulations. The Department believes that the monitoring program presented in the individual plans should address the following elements:

1. Identification of essential resources to monitor;
2. Appropriate frequency of measuring these resources;
3. Expected reliability and cost of the monitoring programs; and
4. Variability standards for initiating an evaluation.

The Department is concerned not only with the completeness of the items listed above but also with the notification process for informing public agencies or other interested parties about amendments and/or revisions to the EIS that are made as a result of the monitoring process.

Varying levels of measurement can be used to monitor and evaluate national forest plans. These include:

1. The action or activity has occurred and the event has been accomplished.

2. The performance is proper and the objectives have been reached.

3. The goal of the plan has been reached.

The degree of involvement in the monitoring process could vary within the organization. Ranger districts, for example, will monitor project accomplishments. National forests will track the actions and accomplishments of the entire forest. Region 6 would review the final outputs to see if regional goals have been reached. Our comments will be directed toward monitoring accomplishments at the national forest level.

Resources to Monitor

In addition to those items identified in 36 CFR 219.12(K)(5), we believe the following resources should be included in the monitoring and evaluation plan:

1. Timber Volume

    a. Planned actual allowable sales quantity.
    b. Actual annual timber volume sold.
    c. Actual annual timber volume cut.
    d. Species composition.

2. Intensive Management

    a. TSI and Release.
    b. Fertilization.
    c. Continued research.

3. Land Withdrawals

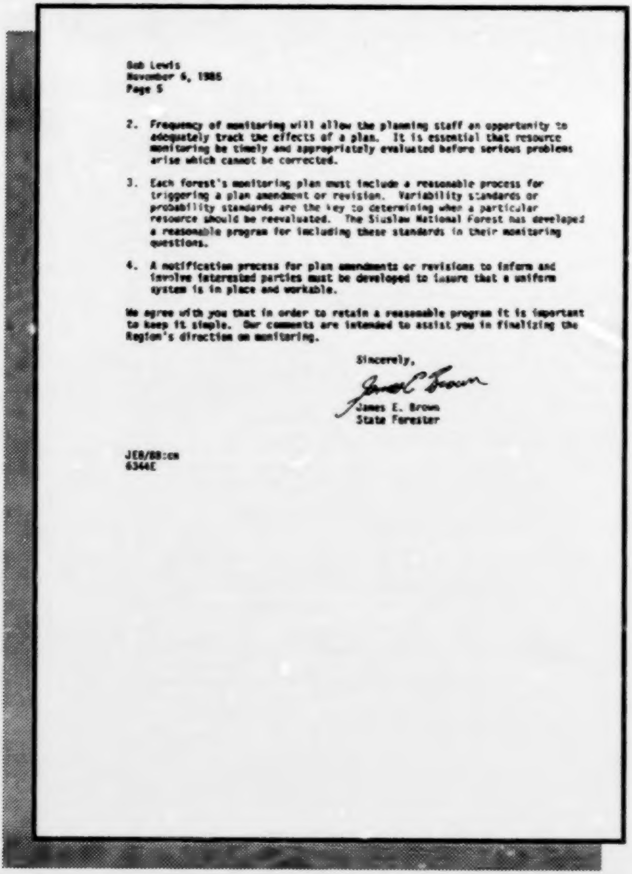
    a. Unroaded areas.
    b. Reduction in suitable lands.

4. MMR Requirements

    a. Are minimum management requirements for protecting special resources greater or less than those minimums now occurring?
    b. Can new research alter protection standards necessary to protect resources to the minimum level?

5. Economics

    a. Values of forest goods and services.
    b. Return to counties.
    c. Levels of employment.
    d. Personal income levels.



2. Frequency of monitoring will allow the planning staff an opportunity to adequately track the effects of a plan. It is essential that resource monitoring be timely and appropriately evaluated before serious problems arise which cannot be corrected.

3. Each forest's monitoring plan must include a reasonable process for triggering a plan amendment or revision. Variability standards or probability standards are the key to determining when a particular resource should be reevaluated. The Siuslaw National Forest has developed a reasonable program for including these standards in their monitoring questions.

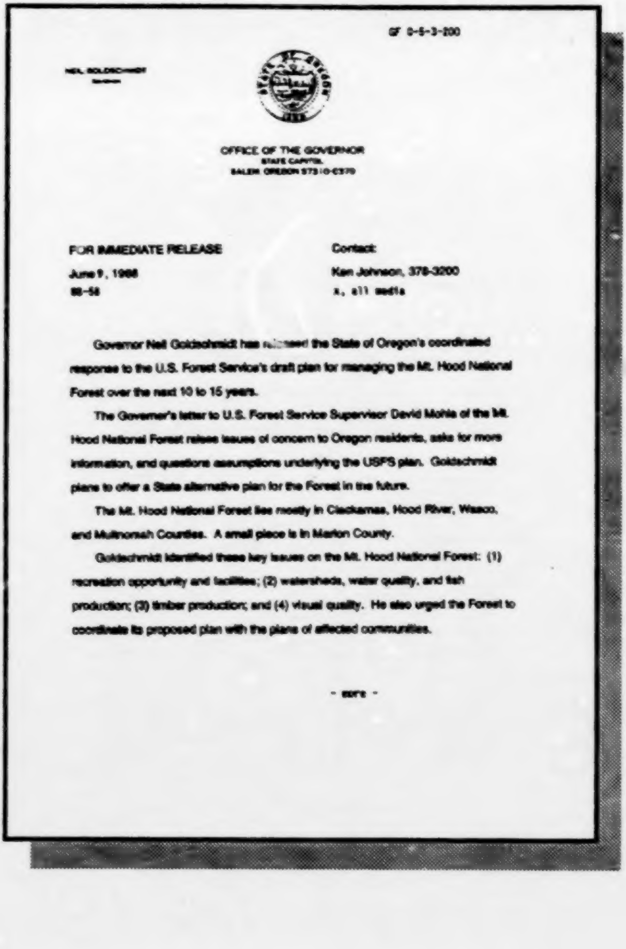
4. A notification process for plan amendments or revisions to inform and involve interested parties must be developed to insure that a uniform system is in place and workable.

We agree with you that in order to retain a reasonable program it is important to keep it simple. Our comments are intended to assist you in finalizing the Region's direction on monitoring.

Sincerely,

James E. Brown
State Forester

JEB/BB:cm
6344E



GF 0-5-3-200

NEIL GOLDSCHMIDT
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310-0370

FOR IMMEDIATE RELEASE
June 9, 1988
88-58

Contact:
Ken Johnson, 378-3200
x, all media

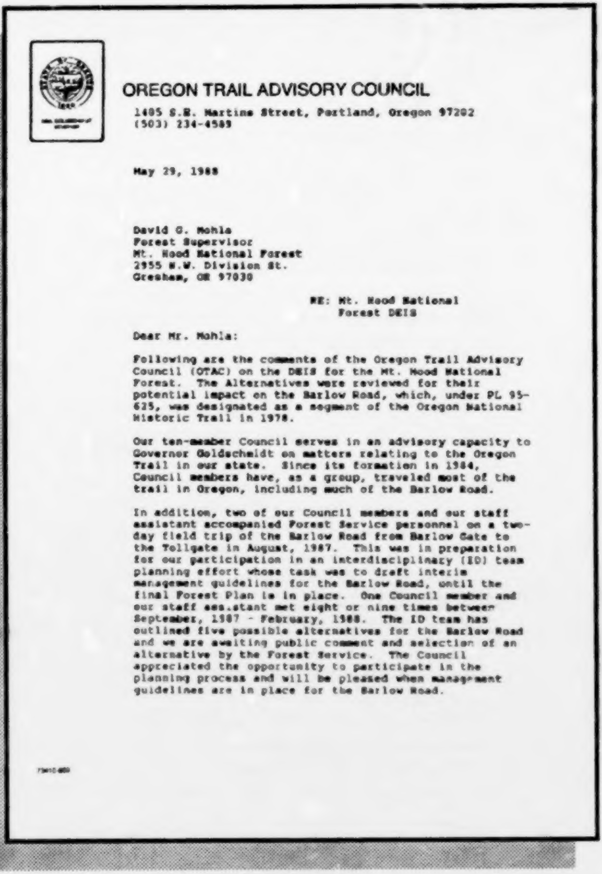
Governor Neil Goldschmidt has released the State of Oregon's coordinated response to the U.S. Forest Service's draft plan for managing the Mt. Hood National Forest over the next 10 to 15 years.

The Governor's letter to U.S. Forest Service Supervisor David Mohla of the Mt. Hood National Forest raises issues of concern to Oregon residents, asks for more information, and questions assumptions underlying the USFS plan. Goldschmidt plans to offer a State alternative plan for the Forest in the future.

The Mt. Hood National Forest lies mostly in Clackamas, Hood River, Wasco, and Multnomah Counties. A small piece is in Marion County.

Goldschmidt identified these key issues on the Mt. Hood National Forest: (1) recreation opportunity and facilities; (2) watersheds, water quality, and fish production; (3) timber production; and (4) visual quality. He also urged the Forest to coordinate its proposed plan with the plans of affected communities.

- more -



OREGON TRAIL ADVISORY COUNCIL
1405 S.E. Martins Street, Portland, Oregon 97202
(503) 234-4589

May 29, 1988

David G. Mohla
Forest Supervisor
Mt. Hood National Forest
2955 N.W. Division St.
Gresham, OR 97030

RE: Mt. Hood National
Forest DEIS

Dear Mr. Mohla:

Following are the comments of the Oregon Trail Advisory Council (OTAC) on the DEIS for the Mt. Hood National Forest. The Alternatives were reviewed for their potential impact on the Barlow Road, which, under PL 95-625, was designated as a segment of the Oregon National Historic Trail in 1978.

Our ten-member Council serves in an advisory capacity to Governor Goldschmidt on matters relating to the Oregon Trail in our state. Since its formation in 1984, Council members have, as a group, traveled most of the trail in Oregon, including much of the Barlow Road.

In addition, two of our Council members and our staff assistant accompanied Forest Service personnel on a two-day field trip of the Barlow Road from Barlow Gate to the Tollgate in August, 1987. This was in preparation for our participation in an interdisciplinary (ID) team planning effort whose task was to draft interim management guidelines for the Barlow Road, until the final Forest Plan is in place. One Council member and our staff assistant met eight or nine times between September, 1987 - February, 1988. The ID team has outlined five possible alternatives for the Barlow Road and we are awaiting public comment and selection of an alternative by the Forest Service. The Council appreciated the opportunity to participate in the planning process and will be pleased when management guidelines are in place for the Barlow Road.

While we believe that most of our concerns about the Barlow Trail are addressed in the five alternatives which we helped develop, the ID team was directed in a memo from you (dated 10/2/87) not to examine land allocation issues as those would be covered by the Forest Planning process. In accordance with this directive, the ID team did not consider this issue. However, we are submitting the following comments on the Alternatives in the DEIS because several of them would have a negative impact on the Barlow Road.

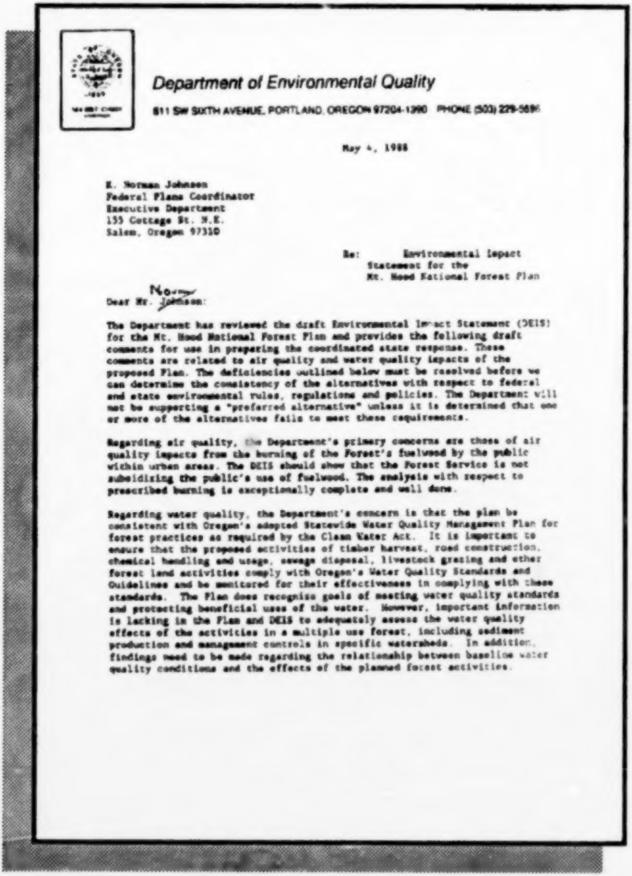
Alternatives A, B, C, I

It is our understanding that under PL 95-625, the entire Barlow Road, as part of the Oregon National Historic Trail, is to be protected. While for the most part the Forest Service has done a good job of protecting the Trail, this policy could change under these four alternatives.

Alternatives A, B and C do not provide for continuous protection of the Barlow Road as a Special Interest Area, and in fact, it appears that intensive logging would be allowed along much of the Barlow Road. Alternative I appears to protect the Barlow Road, as sections would be included in other designations such as Wild, Scenic & Recreational Rivers, Scenic Viewsheds, Pine/Oak Habitat, etc. However, protection under these other categories does not recognize that the Barlow Road is deserving of protection for itself, as a historic and cultural resource. Therefore, the Council believes that Alternatives A, B, C and I are unacceptable.

Alternatives D, E, G

The 1981 management plan proposed by the National Park Service for the Oregon Trail suggested that a one-quarter mile protective corridor be allowed on either side of the trail route. It appears that Alternatives D, E and G allow this half mile buffer for the entire length of the trail. However, if timber cutting is maximized (as proposed on the maps) on the eastern portion of the Barlow Road (eastern Forest boundary to Devil's Half Acre), much of the "densely forested" ambience described in emigrant diaries will be lost. "These mountains are a dense forest of pines, fir, white cedar or redwood...many of the trees are 300 feet high and so dense to almost exclude the light of heaven",



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

May 4, 1988

K. Norman Johnson
Federal Plans Coordinator
Executive Department
155 Cottage St. N.E.
Salem, Oregon 97310

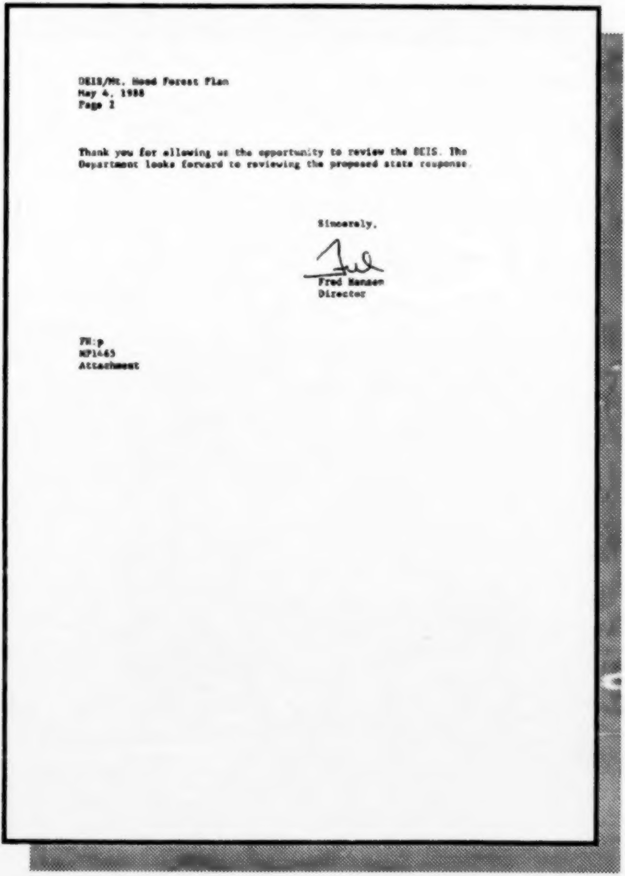
Re: Environmental Impact
Statement for the
Mt. Hood National Forest Plan

Dear Mr. ~~Johnson~~ Norm:

The Department has reviewed the draft Environmental Impact Statement (DEIS) for the Mt. Hood National Forest Plan and provides the following draft comments for use in preparing the coordinated state response. These comments are related to air quality and water quality impacts of the proposed Plan. The deficiencies outlined below must be resolved before we can determine the consistency of the alternatives with respect to federal and state environmental rules, regulations and policies. The Department will not be supporting a "preferred alternative" unless it is determined that one or more of the alternatives fails to meet these requirements.

Regarding air quality, the Department's primary concerns are those of air quality impacts from the burning of the Forest's fuelwood by the public within urban areas. The DEIS should show that the Forest Service is not subsidizing the public's use of fuelwood. The analysis with respect to prescribed burning is exceptionally complete and well done.

Regarding water quality, the Department's concern is that the plan be consistent with Oregon's adopted Statewide Water Quality Management Plan for forest practices as required by the Clean Water Act. It is important to ensure that the proposed activities of timber harvest, road construction, chemical handling and usage, sewage disposal, livestock grazing and other forest land activities comply with Oregon's Water Quality Standards and Guidelines and be monitored for their effectiveness in complying with these standards. The Plan does recognize goals of meeting water quality standards and protecting beneficial uses of the water. However, important information is lacking in the Plan and DEIS to adequately assess the water quality effects of the activities in a multiple use forest, including sediment production and management controls in specific watersheds. In addition, findings need to be made regarding the relationship between baseline water quality conditions and the effects of the planned forest activities.



DEIS/Mt. Hood Forest Plan
May 4, 1988
Page 2

Thank you for allowing us the opportunity to review the DEIS. The Department looks forward to reviewing the proposed state response.

Sincerely,

Fred Hansen
Director

FH:p
MP1465
Attachment

Many of these intermittent/ephemeral streams are in the headwaters of the forest drainage systems where slopes are steep and soils are sensitive. With ever increasing numbers of these areas now being entered for timber harvest, especially the RARE I and II area, these seasonal streams take on a much greater important with regards to water quality and protection of their very diverse riparian habitat.

It is well documented that harvest activity and all the other activities that accompany it have had a detrimental effect on water quality, and aquatic and riparian habitat (DEIS, pgs 3-9 and 4-25). To assure effective consideration of water quality protection measures we request separation of water quality consideration from fish issues on Class III and IV streams for temperatures, turbidity and sediment protection. So doing, will protect water quality in nonfish bearing streams.

2. The relationship of best management practices (BMP) to future water quality protection must be clarified. The DEIS states that water quality has declined due to road building and timber harvest (DEIS 3-9). The Plan states that BMPs will be applied to protect water quality and thus compliance with the Clean Water Act. If BMPs have been applied since signing agreements with the state of Oregon in March 1979, why then has water quality continued to decline? How can the statement be made that water quality will be protected using the same BMPs? There is no adequate support for the statement in the planning documents to substantiate the claim for water quality standards compliance. This problem can be resolved by providing supporting data in the DEIS that shows compliance with water quality standards rather than compliance with BMPs and their implementation. We would be particularly interested in data that supports the effectiveness of BMPs to protect water quality from proposed road building.

3. Using average annual sediment delivery figures (DEIS, Table II-17) are useless for analysing impacts from alternatives. Sediment figures need to be broken out by major watershed and then compared to existing suspended sediment and turbidity figures for these watersheds to assess further impacts by alternatives. We would be looking for protection of existing low sediment and turbidity streams and mitigation on high sediment and turbidity streams. By displaying averages for the whole forest, the process may cover-up potential or existing problems.

B. Review of Water Quality Monitoring Plans

The proposed Plan addresses the issue of monitoring and evaluation of management activities on various resources including soil, water, fish and cumulative effects. We agree with the approaches displayed in the Plan. However, we do have concerns for what is proposed and the need to improve the approach to be most effective.

1. The goal of a monitoring program to protect the water resource should be to assess the changing water quality conditions, not assessment of BMP implementation. The BMPs are tools to achieve water goals and should be monitored for their effectiveness to achieve water quality protection. However, BMPs are not the end products. Good water quality is the end product and, therefore, should be the focus of monitoring.

   We suggest the forest staff use the Nez Perce National Forest final plan, Appendix A, Forest Fishery/Water Quality Direction by Prescription Watershed approach and specific elements as a starting point for improving the Mt. Hood monitoring plan. Please pay particular attention to the focus on beneficial uses of water in the streams and to the stream and water quality parameters monitored.

2. It is unclear in the proposed Plan how the results of the water monitoring efforts will be displayed to the resource managers to modify their management strategies as necessary.

   A more frequent contact with the resource managers is necessary to ensure timely and effective decisions to protect water quality. We suggest that the plan be improved to show (a) the mechanism for the results of water quality monitoring to be transmitted to other resource managers and (b) how frequently these communications will be made. These improvements could be added to Plan Table 5-2 and a paragraph added on Plan page 5-6 to describe the column and its purpose.

3. Adequate and guaranteed funding of a monitoring program is necessary. The proposed plan displays costs for monitoring, but this does not ensure that the monitoring will actually take place. It is our position that plan implementation monitoring is not voluntary or optional, but mandatory. Our position is based on the monitoring requirements inherent in the National Forest Management Act (NFMA) which states, "(E) insure that timber will be harvested from National Forest System lands only where -

   (iii) protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat" (Section 6, NFMA).

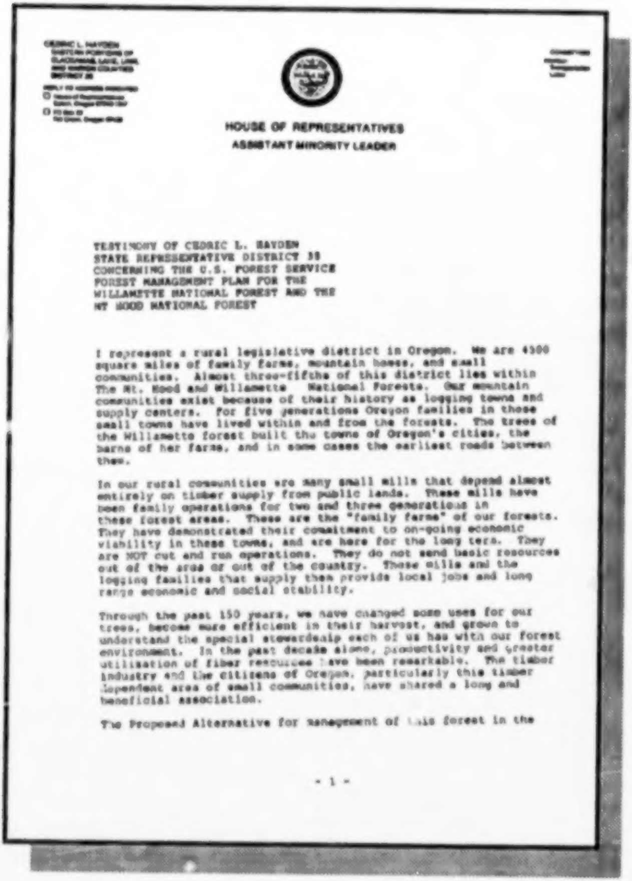
4. We suggest the Forest staff efforts to monitor stream conditions by using aquatic invertebrates as indicator species. Ongoing basic and applied research in this field suggests a good change in the future of these being effective indicators.

3. All sewage disposal practices need to be in compliance with state requirements. Please state these requirements by reference in the Plan.

4. Groundwater protection planning should be included in all chemical handling practices, in the forest. This would include but not be limited to herbicides, pesticides, fertilizers, and degreasing solvents at maintenance shops.

5. Activities and procedures that minimize erosion, and surface water runoff also will increase infiltration, allowing for more stable year rounds stream flow.

For further information regarding Water Quality, contact John Jackson at 339-4035.



HOUSE OF REPRESENTATIVES

ASSISTANT MINORITY LEADER

TESTIMONY OF CEDRIC L. HAYDEN
STATE REPRESENTATIVE DISTRICT 38
CONCERNING THE U.S. FOREST SERVICE
FOREST MANAGEMENT PLAN FOR THE
WILLAMETTE NATIONAL FOREST AND THE
MT HOOD NATIONAL FOREST

I represent a rural legislative district in Oregon. We are 4300 square miles of family farms, mountain homes, and small communities. Almost three-fifths of this district lies within The Mt. Hood and Willamette National Forests. Our mountain communities exist because of their history as logging towns and supply centers. For five generations Oregon families in these small towns have lived within and from the forests. The trees of the Willamette forest built the towns of Oregon's cities, the barns of her farms, and in some cases the earliest roads between them.

In our rural communities are many small mills that depend almost entirely on timber supply from public lands. These mills have been family operations for two and three generations in these forest areas. These are the "family farms" of our forests. They have demonstrated their commitment to on-going economic viability in these towns, and are here for the long term. They are NOT cut and run operations. They do not send basic resources out of the area or out of the country. These mills and the logging families that supply them provide local jobs and long range economic and social stability.

Through the past 150 years, we have changed some uses for our trees, become more efficient in their harvest, and grown to understand the special stewardship each of us has with our forest environment. In the past decade alone, productivity and greater utilization of fiber resources have been remarkable. The timber industry and the citizens of Oregon, particularly this timber dependent area of small communities, have shared a long and beneficial association.

The Proposed Alternative for management of this forest in the

- 1 -

6. Other Resources

   a. Air quality.
   b. Water quality.

The Department of Forestry will be closely monitoring elements identified in items 5 and 6 which are the result of items 1-3.

Both amenity and commodity resources should be monitored to determine if the plan is meeting its intended objectives.

Frequency of Monitoring and Reporting

The frequency of checking a plan or identifying how often the resource will be monitored is a fairly basic question which must be addressed in the monitoring plan. Depending upon the resource to be evaluated we believe that most items should be reviewed on a yearly basis, with some others on a five year interval.

Amendments to the plan should be considered if the objectives of the resource to be evaluated exceed the variability standard noted in the monitoring plan.

Reporting of the actual results from monitoring should also be identified. The Siuslaw National Forest draft monitoring plan presents a good example for the identification of time frames for reporting resource management accomplishments.

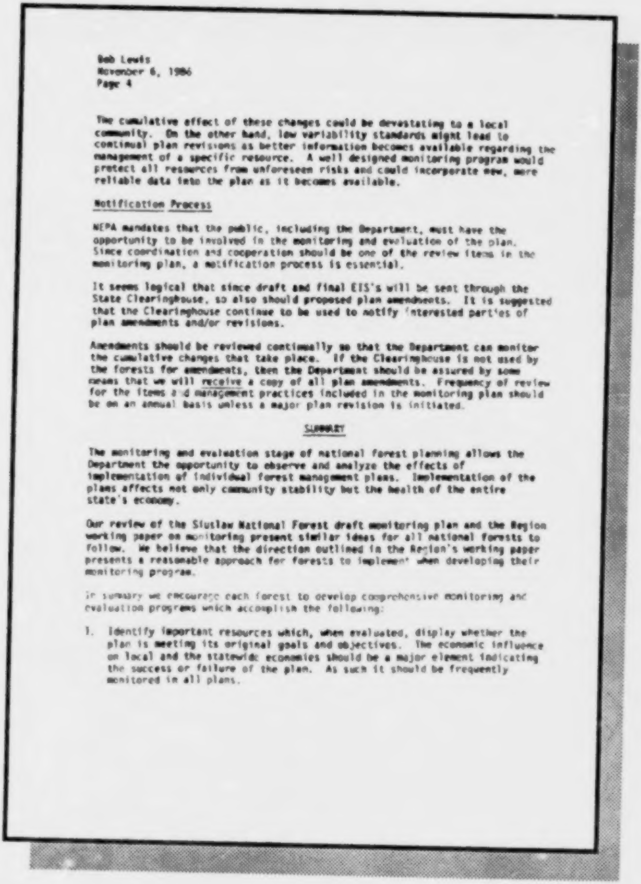
Reliability and Cost

The monitoring and evaluation plan should include measurements of expected precision and reliability to be obtained from monitoring a particular resource. Reliability of data is dependent upon sample size and funding available to conduct the evaluation. Some resources, due to their nature, will require more expenditures in order to obtain the needed results. Current budget cutbacks must not be overlooked when developing the monitoring plan.

Variability Standards

Variability standards are the most important element of the monitoring plan. The question is: "How much variability from the standard will be acceptable to the Department and the State of Oregon, that initiates an evaluation of the existing plan?" Variations of 25 percent on harvest levels, for example, will have an unacceptably severe effect on the social and economic environment of local communities and the state as a whole.

Variability standards should take into account uncertainty in data and knowledge regarding special resources. It is unacceptable that both local and state economies suffer as a result of decisions based on unrefined data. The situation is critical in that a high variability standard could allow for many changes due to data refinement before a major plan revision was triggered.



The cumulative effect of these changes could be devastating to a local community. On the other hand, low variability standards might lead to continual plan revisions as better information becomes available regarding the management of a specific resource. A well designed monitoring program would protect all resources from unforeseen risks and could incorporate new, more reliable data into the plan as it becomes available.

Notification Process

NEPA mandates that the public, including the Department, must have the opportunity to be involved in the monitoring and evaluation of the plan. Since coordination and cooperation should be one of the review items in the monitoring plan, a notification process is essential.

It seems logical that since draft and final EIS's will be sent through the State Clearinghouse, so also should proposed plan amendments. It is suggested that the Clearinghouse continue to be used to notify interested parties of plan amendments and/or revisions.

Amendments should be reviewed continually so that the Department can monitor the cumulative changes that take place. If the Clearinghouse is not used by the forests for amendments, then the Department should be assured by some means that we will receive a copy of all plan amendments. Frequency of review for the items and management practices included in the monitoring plan should be on an annual basis unless a major plan revision is initiated.

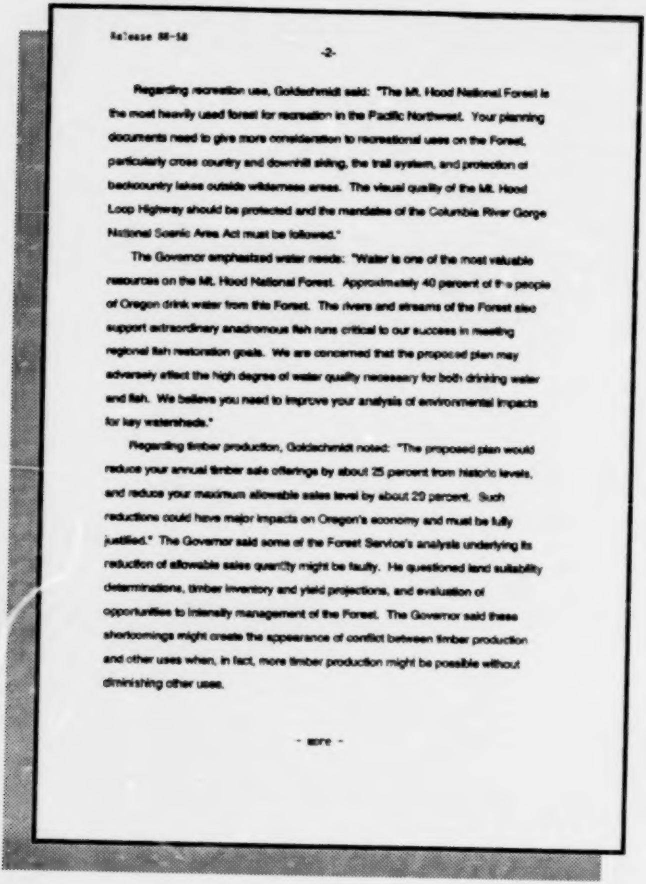
SUMMARY

The monitoring and evaluation stage of national forest planning allows the Department the opportunity to observe and analyze the effects of implementation of individual forest management plans. Implementation of the plans affects not only community stability but the health of the entire state's economy.

Our review of the Siuslaw National Forest draft monitoring plan and the Region working paper on monitoring present similar ideas for all national forests to follow. We believe that the direction outlined in the Region's working paper presents a reasonable approach for forests to implement when developing their monitoring program.

In summary we encourage each forest to develop comprehensive monitoring and evaluation programs which accomplish the following:

1. Identify important resources which, when evaluated, display whether the plan is meeting its original goals and objectives. The economic influence on local and the statewide economies should be a major element indicating the success or failure of the plan. As such it should be frequently monitored in all plans.



Regarding recreation use, Goldschmidt said: "The Mt. Hood National Forest is the most heavily used forest for recreation in the Pacific Northwest. Your planning documents need to give more consideration to recreational uses on the Forest, particularly cross country and downhill skiing, the trail system, and protection of backcountry lakes outside wilderness areas. The visual quality of the Mt. Hood Loop Highway should be protected and the mandates of the Columbia River Gorge National Scenic Area Act must be followed."

The Governor emphasized water needs: "Water is one of the most valuable resources on the Mt. Hood National Forest. Approximately 40 percent of the people of Oregon drink water from this Forest. The rivers and streams of the Forest also support extraordinary anadromous fish runs critical to our success in meeting regional fish restoration goals. We are concerned that the proposed plan may adversely affect the high degree of water quality necessary for both drinking water and fish. We believe you need to improve your analysis of environmental impacts for key watersheds."

Regarding timber production, Goldschmidt noted: "The proposed plan would reduce your annual timber sale offerings by about 25 percent from historic levels, and reduce your maximum allowable sales level by about 20 percent. Such reductions could have major impacts on Oregon's economy and must be fully justified." The Governor said some of the Forest Service's analysis underlying its reduction of allowable sales quantity might be faulty. He questioned land suitability determinations, timber inventory and yield projections, and evaluation of opportunities to intensify management of the Forest. The Governor said these shortcomings might create the appearance of conflict between timber production and other uses when, in fact, more timber production might be possible without diminishing other uses.

- more -

Goldschmidt's letter was developed from: (1) public comments at state-sponsored meetings and through letters, (2) staff recommendations from affected state agencies, (3) field inspections of the Forests by Norm Johnson, the Governor's Federal Plans Coordinator, and other members of the Governor's coordinated response team, and (4) Forest Service responses to points raised by the public and by the state team.

Copies of the state's coordinated responses to the Mt. Hood National Forest plan are available at:

Oregon Department of Forestry
14995 S. Highway 211
Molalla, OR 97038

Board of County Commissioners
309 State Street
Hood River, OR 97031

Oregon Department of Forestry
2600 State Street
Salem, OR 97310

Oregon Department of Forestry
3701 W. 13th
The Dalles, OR 97058

Oregon Department of
Fish and Wildlife
506 SW Mill Street
Portland, OR 97207

Oregon State University
School of Forestry
Forest Management, Peavy 202
Corvallis, OR 97331

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wrote one emigrant, of the area near Barlow Creek. The Council would prefer a wider, protective corridor, especially on the eastern portion of the Barlow Road, since this segment of the Road remains heavily forested and undisturbed by paved highways and "civilisation."

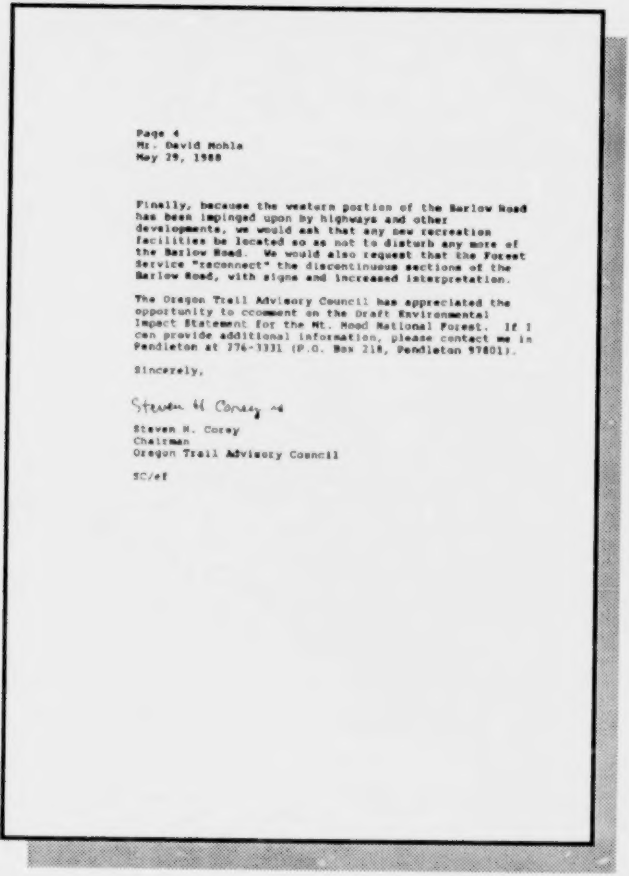
In summary, Alternatives D, E and G are unacceptable to the Council because the proposed protective corridor appears inadequate to retain the historic ambience of the Barlow Road.

Alternatives F, H

Alternative F sets aside large amounts of land adjacent to the Barlow Road as areas for scenic viewshed management. In addition, Alternative H includes specific protection of old growth forest on the northern side of the Barlow Road from the area of Faith Springs to Devil's Half Acre. Alternatives F and H are the most appealing to the Council as they would protect large areas of scenic viewshed and old growth timber near the Barlow Road. This would insure retention of the Road's historic environment, as mentioned in the previous diary quotation.

Most of OTAC's comments have focused on the eastern part of the Barlow Road (Barlow Gate to Barlow Pass), because this is the part of the Road which would be most severely impacted by Alternatives A-G, if one of these is selected as the Preferred Alternative. The Council has observed the adverse impact of timber harvesting on the Barlow Road. An area on the western Barlow Road (between Barlow Pass and the Pioneer Woman's Grave) has been intensively logged; this activity has resulted in a very negative effect on this part of the Barlow Road. The area no longer could be described as "densely forested" and it is doubtful that it could be returned to its historic character. The Council therefore urges caution and restraint in timber harvesting in the vicinity of the Barlow Road.

The Council is also concerned about the impacts of logging roads on the Barlow Road if intensive timber harvesting is allowed, especially east of Barlow Pass, as proposed in Alternatives A, B, C, D, E and G.



Page 4
Mr. David Mohla
May 29, 1988

Finally, because the western portion of the Barlow Road has been impinged upon by highways and other developments, we would ask that any new recreation facilities be located so as not to disturb any more of the Barlow Road. We would also request that the Forest Service "reconnect" the discontinuous sections of the Barlow Road, with signs and increased interpretation.

The Oregon Trail Advisory Council has appreciated the opportunity to ccomment on the Draft Environmental Impact Statement for the Mt. Hood National Forest. If I can provide additional information, please contact me in Pendleton at 276-3331 (P.O. Box 218, Pendleton 97801).

Sincerely,

Steven H Corey

Steven H. Corey
Chairman
Oregon Trail Advisory Council

SC/ef

Mt. Hood National Forest Plan DEIS Comments

Department of Environmental Quality
811 SW Sixth Avenue
Portland, Oregon 97204

I. Air Quality

The following comments summarize Department of Environmental Quality, Air Quality Division concerns that should be addressed in the Final Mt. Hood National Forest Plan.

Forest Planning Impact Analysis

The principal issue of concern to the Department is that of air quality impacts related to urban air quality impacts resulting from residential use of fuelwood from the Forest and the highest and best practicable use of forest residues.

The Department has become increasingly concerned about residential wood smoke impacts on urban air quality. Fuelwood cutting programs managed on the Mt. Hood National Forest is a major and inexpensive source of fuelwood for Oregon residents. The DEIS does not discuss the serious environmental consequences of the fuelwood program and it's consistency with Federal and State environmental policies. Specifically, the DEIS should clearly demonstrate that woodcutting fees are not subsidizing the public's use of fuelwood.

For further information on Air Quality Comments, please contact John Core (229-5380).

II. Water Quality

The Management Plan and DEIS were reviewed within the concept that land management activities have the potential to beneficially or adversely impact the quality of the waters IN the forest land downstream from the forest. The Management Plan has the opportunity to improve existing degraded resources and to maintain or protect existing desired resource conditions. The level of emphasis placed on water quality conditions and the processes used to protect that quality, play an important role in providing guidance to the managers on a project-by-project basis in the future.

The Water Quality Division comments are detailed in the following sections.

A. Consistency with Provisions of the Clean Water Act.

Fish habitat, recreational uses and water for domestic use are all recognized beneficial uses of the waters within and emanating from the Mt. Hood Forest. The Department of Environmental Quality's statutory obligation is to protect, maintain, and improve water quality for these uses. The Department does this, in part, with the help of the Federal Clean Water Act and Oregon water quality standards contained in the Oregon Administrative Rules (OAR).

The draft Mt. Hood Forest Plan provides a goal for meeting state water quality standards. The Plan also provides standards and guidelines for water that will be met through the application of Best Management Practices (BMP) at the project planning level. We believe these are compatible statements, both of which, if achieved will maintain or improve water quality in the forest. To strengthen these statements and avoid misinterpretation of goals, we suggest specific references to Oregon's water quality standards (OAR Chapter 340, Division 41) and Oregon's forest practice rules (OAR Chapter 629, Division 24) be added to the water resources goal statements (p.4-2, proposed Plan) and the statements in the forest-wide standards section beginning on page 4-18 and continuing through page 4-20 of the proposed Plan.

The Plan should also provide standards for wastewater systems. We request that the following language be added to the forest-wide standards section on page 4-20 of the proposed Plan:

> "Sewage treatment and disposal facilities shall be approved by the Department of Environmental Quality or its contract agents and shall be in compliance with rules of the Environmental Quality Commission".

The forest staff should be commended for the following work that went into producing the proposed Plan and draft Environmental Impact Statement (DEIS).

- A refreshing approach to identifying standard to be applied to each type and class of waterbody on the forest.
- The clear and succinct discussion of information needs
- Placing values on clean and plentiful water for domestic use.
- The proposal to use macroinvertebrate species as indicators of stream health.

To further strengthen the proposed Plan and DEIS, we offer the following comments:

1. We question the suitability of combining water quality and fish habitat into one public issue. According to the DEIS and Plan, there are approximately, 1,600 miles that support fish and almost 3,500 miles of perennial and intermittent streams that do not. It is our assessment that when water quality and fish are grouped together the stream not supporting fish tend to get emphasis when assigning protective measures for the water itself and the riparian vegetation adjacent to these waterbodies.

3. Comments throughout the planning documents suggest the forest staff know current water quality conditions in many streams. It is not clear whether streams are monitored prior to a forest operation to establish a baseline condition from which to evaluate the forest operation effects on the stream. A description of current and future water quality monitoring for the purposes of establishing baseline conditions needs to be reflected in the DEIS and Plan.

C. Review of Management Strategies and Alternatives

The DEQ made no attempt to determine a preferred alternative for water quality. We recognize that this is a land management plan, so we are concerned with the various levels of potential water quality impacts from these land activities. We also recognize that differences in management intensity of an activity will create varying potential impacts on water quality.

We reviewed all alternatives and management strategies and prescriptions found in the Plan and DEIS with interest in the potential for water quality impacts and the opportunities available to ensure water quality protection. We assume that the higher the level of soil disturbance by activities the greater the potential for erosion problems; also the greater the encouragement for recreation, the greater the potential for additional water quality problems.

If the proposed preferred plan alternative can maintain or improve water quality, then the DEQ could support the preferred alternative. However, we are not convinced from what we have been presented for review that this goal can be fully achieved. For example, relating to the issue of BMP effectiveness previously discussed, maintenance and antidegradation of pristine and water quality within national forests are also required by the provisions of the National Forest Management Act (NFMA). Because of the questions just raised about BMP effectiveness, alternatives NC, A, B, C and Da re no acceptable. The preferred alternative is barely acceptable if faith is place in the effectiveness of BMPs. We based this statement on the mentioned alternatives maintaining a "stable" long term water quality which appears to preserve the current stated downward water quality trend.

The preferred alternative "E" as described in the Plan and DEIS does not appear to provide an acceptable level of protection to water quality concerns. This omission is especially serious in the Sandy and Clackamas River Basins. The proposed alternative calls for extensive logging and road building in the upper water sheds of the Sandy, Salmon, Clackamas and White River drainages.

The type of logging to be used and mitigation measures to prevent water quality degradation are only described in general terms. The same description that suggest ineffective BMPs are being used. The Plan needs to more fully ensure the reader that effective BMPs are being considered. This can only be done by a thorough discussion of existing work on the forest where BMP effectiveness to protect water quality has been clearly demonstrated.

In addition, the statement that "Harvest will cause temporary reductions in water quality" is only acceptable if beneficial uses of water in the streams is not degraded. Otherwise the forest operation is in violation of Oregon's antidegradation policy stated in OAR 340-41-026(1)(a).

We are also concerned how the Alternative E has handled the potential impacts of cutting previously sold but uncut timber on water quality. The DEIS describes a backlog of 1,500 MMBF of uncut timber in FY 1985. What is the current backlog? How does the forest intend to protect water quality if the sold, uncut timber and the Plan's timber are cut the same year? It appears that increased pressure will be placed on the forest's streams over and above the stated Plan goal riparian area, soils, in Table 4-1, page 4-13.

D. Review of Management of Special Use Watershed

We reviewed the Plan and DEIS for proposed management of domestic water supply watersheds. We generally concur with the approaches for "Special Emphasis Watersheds" described beginning on page 4-174 of the Plan. It is unclear, in reading the Plan, if all municipal water supply streams on the forest are considered here. To comply with the requirements of this federal Safe Drinking Water Act, the forest and the owner of the water supply system must enter into a written agreement to control pollution on their respective watersheds.

We request that the proposed Plan include consideration of each municipal water supply watershed and then display the management direction and environmental impacts for managing the resources in these watersheds similar to that done beginning on page 4-174 of the Plan. Doing this still does not relieve the forest staff from developing agreements with each municipality.

E. Review of the Plan for Groundwater Quality Protection.

The Plan virtually ignores the groundwater component of the hydrologic cycle. Although groundwater probably will be minimally affected by forest management activities, the Plan should recognize the importance of groundwater quality protection and discuss the following points.

1. Activities that affect groundwater quality will eventually affect surface water quality. Conversely, changes in surface water quality might be reflected in groundwater quality.

2. Lakes with unique pristine water quality may need special groundwater protection requirements to prevent nutrient enrichment, particularly with regard to sewage disposal practices associated with intensive recreational use.

decade ahead is flawed in fact and in process. The process from which this proposal is derived relies too heavily on projections based on past management practices, it fails to provide an integration of other national policies and interests, and it has created an unmanageable dichotomy of choice for public respondents setting production against preservation.

If we were somehow able to begin with a blank canvas and design a forest--and a plan for its management--we would certainly allow for the grandeur, the majesty, the hushed beauty so many of us have experienced in the forest on spring days such as this. We might also include some of nature's most interesting creatures, some of its geologic wonders, some of its most dynamic processes. We would design for all the sensory pleasures of the soul to be there. But, we are not beginning with a blank canvas. We have an existing forest, a living, changing resource, and we need to keep in mind this aspect of change--the DYNAMICS of this resource. Our forest is not static and no amount of planning will stop the dynamic processes of our natural world. We must define our management in terms of the forest's own ability to change.

One of the primary difficulties in responding to the development of this management plan is that the proposals tend to create an either/or dichotomy. I do not believe there is a forest worker in Oregon who does not have a strong personal sense of stewardship and reverence for the forest. Just as a farmer knows his livelihood depends on his stewardship of the acres he tills, foresters understand their tie to the trees they harvest and replant. It is no coincidence that one mill in the Santiam Canyon has a dozen father-son employee teams. It is a strong sense of pride in good work and a commitment to future forests which has kept our small towns vital over the years.

The either/or alternatives in developing this plan are unrealistic. Perhaps this dichotomy is its most important flaw. It doesn't allow individuals to truly help prepare the management guidelines, it only allows choices between one grouping of ideas versus another. It is like having only combination plates at a restaurant and no substitutions. There are attractive aspects in most alternatives suggested, but unacceptable elements as well. This means either choosing an alternative knowing part of the choice is unwanted, or choosing not to choose at all. I believe that a better decision-making process would be to separate management areas and allow comment on the extent and conditions of management for each topical area. Then, and this is most important, we must refine each recommendation IN RELATION TO EVERY OTHER NEED in the forests. We have a zero-based forest budget here and every decision impacts every other decision. For that reason, my recommendation is "none of the above" but "some of most of the above." The alternatives as proposed unnecessarily polarize user groups and interested citizens. They limit the specific recommendations a reviewer may make.

The second greatest flaw in this process is that there is very poor and certainly unclear coordination with other federal priorities and processes. Setting MMRs (Minimum Management Requirements) for particular creatures and species has been accomplished (sometimes without public participation and on data known only to forest gnomes) in separate decisions. Once established, these guidelines become indestructible, non-negotiable legal regulations. And, unfortunately, they are inconsistent. Many are specific and detailed enough to give clear guidance on actual management expectations. Where they give standards for maximum allowable clear cuts, or define the timber available for harvest by dimensional size, or define when contractual obligations are closed on evidence of measurable regrowth, these are useful and practical guides. But, where adopted MMR guidelines are so vague as to require "viable populations of all species" or require the agency to "maintain plant and animal diversity" they are not only useless, but obstacles to making everyday management decisions by public agencies and by private contractors. The potential for rule change or legal challenge is much too great. This is an unmanageable uncertainty for long range business planning.

National policies on energy self sufficiency, on trade goals, on access rights for handicapped, on stabilizing local economies, or on strategic materials have not been sufficiently integrated in this planning process. We must not allow piecemeal management decisions for resources that have broad interties with other federal goals and policies.

The reason I make such a strong case for the human factors in this planning is because we must keep always in mind that we are planning for people here, not salamanders, insects, birds, rocks, fish, or even trees. It is the economic and aesthetic values to humans that is important. The basic question is whether we shall use our forest resources or set them aside as some independent legal entity. While humankind cannot be dissassociated from the natural setting the forests provide to our world environment, there is a great capacity to manage them rationally, carefully, and perpetually for human benefit.

There are errors in the proposals because the process of developing them has made the assumption that the future may be accurately predicted from past and present management experience. But, this is probably not so. Things have and will change. Forest industry practices, Congressional action concerning forest management, and social needs are likely to change markedly in the coming decade, and these plan processes should be forward-thinking to suit the change. For example, federal agencies' costs will probably rise, perhaps dramatically, from activities like the recent spate of lawsuits and administrative legal delays involving buy-back re-sales.

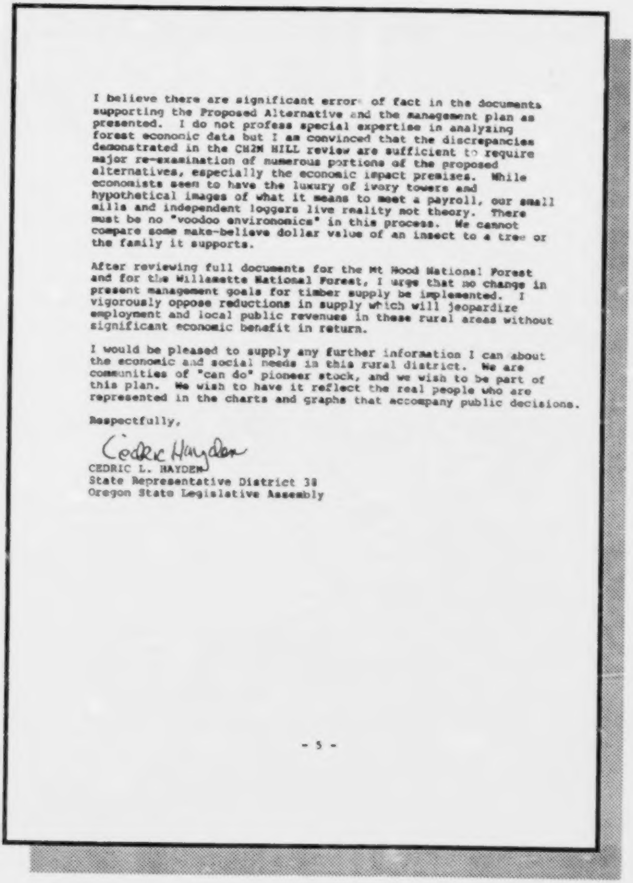
Clearly, product marketing changes, worldwide timber supplies and demands, further industry productivity improvements, and population bulges demanding increased housing during the coming decade are important changes as well.

The Oregon timber industry is still struggling to recapture momentum lost to the devastating recession of the early 1980s. The industry has responded by making more with less. It has already sharpened its budget axes and altered production practices, improved technology, and trained a stronger work force. In our small towns, this was only possible because the longtime workers in our mills re-trained, they made benefit concessions--they were partners in the very survival of many companies. A reduction of the timber supply now, especially at the drastic levels preferred in this plan will reward their patience, their hard work, and their foresight with lost jobs, a need to leave their homes (and perhaps their families) to find new work, and possibly personal economic ruin. I cannot emphasize enough this HUMAN element because it is the very essence of this public decision. It is as many as 2,000 families in my district alone.

Oregon lumber products are just now becoming competitive in mid-western US markets because of domestic rail deregulations. Oregon lumber products are finding new and expanded markets overseas. Oregon lumber products are again competitive with Canadian producers who dumped subsidized products on the world markets in the past decade. For the proposed plan to recommend harvest levels based on past averages, and not to account for these changes is unrealistic.

In these matters of policy and public planning we must be especially attentive to the human impacts our decisions produce. I speak to this process for the hundreds of loggers, millworkers and local support businesses in my rural district. I also speak for our recreation business industry, and for the individual users of the forests. My voice is to urge true multiple and balanced forest uses and to plea for multiple consideration for all responsible alternative forest users.

I have never met a logger or anyone else who has ever suggested we cut down every tree or foul our streams, or decimate our wildlife. These are real people providing useful and productive products from a renewable resource to the benefit of many. Oregon's timber industry is a responsible neighbor--a major partner in our small towns. The timber supply elements of the proposed alternative fail to provide a stable and adequate materials base for our primary economic partner



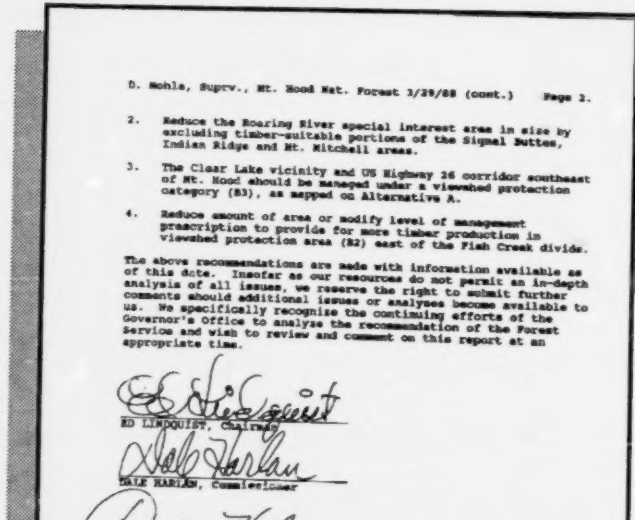
I believe there are significant errors of fact in the documents supporting the Proposed Alternative and the management plan as presented. I do not profess special expertise in analyzing forest economic data but I am convinced that the discrepancies demonstrated in the CH2M HILL review are sufficient to require major re-examination of numerous portions of the proposed alternatives, especially the economic impact premises. While economists seen to have the luxury of ivory towers and hypothetical images of what it means to meet a payroll, our small mills and independent loggers live reality not theory. There must be no "voodoo environomics" in this process. We cannot compare some make-believe dollar value of an insect to a tree or the family it supports.

After reviewing full documents for the Mt Hood National Forest and for the Willamette National Forest, I urge that no change in present management goals for timber supply be implemented. I vigorously oppose reductions in supply which will jeopardize employment and local public revenues in these rural areas without significant economic benefit in return.

I would be pleased to supply any further information I can about the economic and social needs in this rural district. We are communities of "can do" pioneer stock, and we wish to be part of this plan. We wish to have it reflect the real people who are represented in the charts and graphs that accompany public decisions.

Respectfully,

Cedric Hayden
CEDRIC L. HAYDEN
State Representative District 38
Oregon State Legislative Assembly



D. Mohla, Suprv., Mt. Hood Nat. Forest 3/29/88 (cont.) Page 2.

2. Reduce the Roaring River special interest area in size by excluding timber-suitable portions of the Signal Buttes, Indian Ridge and Mt. Mitchell areas.

3. The Clear Lake vicinity and US Highway 26 corridor southeast of Mt. Hood should be managed under a viewshed protection category (B3), as mapped on Alternative A.

4. Reduce amount of area or modify level of management prescription to provide for more timber production in viewshed protection area (B2) east of the Fish Creek divide.

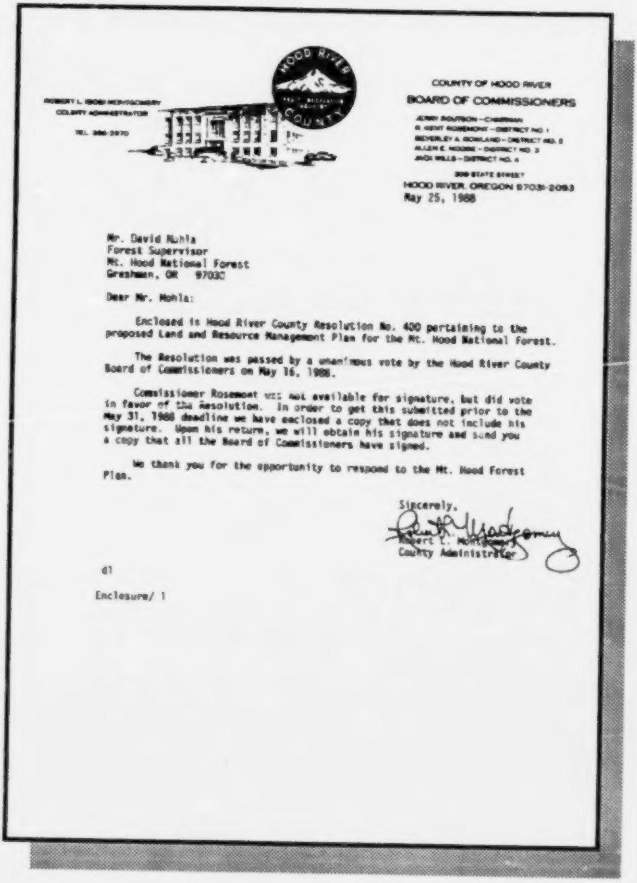
The above recommendations are made with information available as of this date. Insofar as our resources do not permit an in-depth analysis of all issues, we reserve the right to submit further comments should additional issues or analyses become available to us. We specifically recognize the continuing efforts of the Governor's Office to analyze the recommendation of the Forest Service and wish to review and comment on this report at an appropriate time.

Ed Lindquist
ED LINDQUIST, Chairman

Dale Harlan
DALE HARLAN, Commissioner

Darlene Hooley
DARLENE HOOLEY, Commissioner

IIIFS/Hood/arp



ROBERT L. (BOB) MONTGOMERY
COUNTY ADMINISTRATOR

TEL. 386-3970

COUNTY OF HOOD RIVER
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309 STATE STREET
HOOD RIVER, OREGON 97031-2093

May 25, 1988

Mr. David Mohla
Forest Supervisor
Mt. Hood National Forest
Gresham, OR 97030

Dear Mr. Mohla:

Enclosed is Hood River County Resolution No. 400 pertaining to the proposed Land and Resource Management Plan for the Mt. Hood National Forest.

The Resolution was passed by a unanimous vote by the Hood River County Board of Commissioners on May 16, 1988.

Commissioner Rosemont was not available for signature, but did vote in favor of the Resolution. In order to get this submitted prior to the May 31, 1988 deadline we have enclosed a copy that does not include his signature. Upon his return, we will obtain his signature and send you a copy that all the Board of Commissioners have signed.

We thank you for the opportunity to respond to the Mt. Hood Forest Plan.

Sincerely,

Robert L. Montgomery

Robert L. Montgomery
County Administrator

dl

Enclosure/ 1

Marion County
OREGON
BOARD OF COMMISSIONERS

(503) 588-5212

BOARD OF
COMMISSIONERS
Randall Franke
Gary Heer
Gerry [illegible]

ADMINISTRATIVE
OFFICER
Ken Roudybush

April 12, 1988

William Geurds
Planning Staff Officer
Mt. Hood National Forest
2955 NW Division Street
Gresham, Oregon 97030

RE: Comments on Mt. Hood National Forest Draft Environmental Impact Statement and Proposed Land and Resource Management Plan

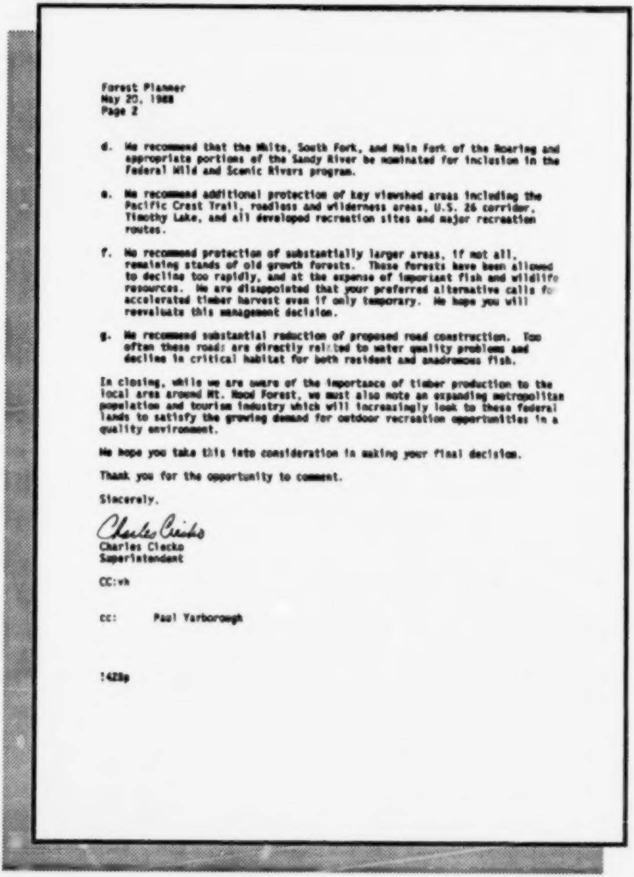
Dear Mr. Geurds:

We have reviewed the above two documents and have the following comments. A small portion of the Mt. Hood National Forest is located within Marion County. All of the National Forest is located within the "Forest" designation in the Marion County Comprehensive Plan, and zoned TC (TIMBER CONSERVATION). The primary intent of this Comprehensive Plan and zoning designation is to limit the use of identified forest lands to timber production, farming, watershed, wildlife habitat, recreation, and other compatible uses.

As we understand it, Alternative E is the Mt. Hood National Forest's preferred alternative for management of the Forest, and this alternative would approximate the average level of timber production that the Mt. Hood National Forest has generated over the last ten years. Over the last ten years, the average timber production has been approximately 280 million board feet cut per year. In response to the community stability issue, the first decade annual timber harvest under Alternative E would be scheduled at 268 million board feet per year. This would likely be supplemented by several million additional board feet/year that would be cut in the Bull Run watershed and perhaps other areas.

Alternative E would permit a departure from non-declining timber flow in order to produce as much timber as possible during the first decade from the suitable land base. Alternative E also reflects identified needs to reduce timber harvest levels on some portions of the Forest in response to the issues of water quality and fish and wildlife habitat. We would recognize, along with the Forest Service, that after the first couple of decades the timber production from the Forest would need to drop back slightly in order to meet federal laws requiring long-term sustained yield of timber from National Forests. We would also recognize that throughout Oregon, lumber industry productivity increases have significantly reduced the number of timber industry workers during the last ten years. In 1979 it took 4.5 workers to produce a million board feet; by 1986 it took 2.8 workers to produce the same amount (Source: State of Oregon Employment Division Labor Market Information, 1987). Thus, even if the same amount of timber were to be cut in the future as in the past, timber industry employment levels would drop back as part of a general restructuring of Oregon's economy.

We know that payments to Marion County from Mt. Hood National Forest timber receipts are based on the amount of National Forest land in the County, and not the amount of timber cut in Marion County. With this understanding and in response to environmental quality and natural resource concerns in the Marion County Comprehensive Plan, we would ask the Forest Service to consider the sensitive scenic qualities of the area immediately south and west of Elk Lake. Alternative E allocates this area to intensive timber production emphasis although the Timber Suitability Map shows the majority of these two square miles to be non-forest land/non-suitable land for timber products. We would also suggest posting of educational signs regarding proper disposal of human waste at the trailheads leading into the Bull of the Woods Wilderness north from Elk Lake. Evidence of improper disposal near headwater streams of the Collawash River have been discovered in this area. This leads to concern about giardia or other water-borne diseases getting into the Clackamas River drainage. Our final suggestion is that the title of Figure 7A on the top of page 56 of your Reviewer's Guide be changed to read "First Decade Changes in Timber Industry Employment." This would more accurately describe what the graph in Figure 7A is showing, recognizing that the Forest also contributes to a variety of employment in such areas as the tourist industry, fishing, whitewater boating, etc.



Forest Planner
May 20, 1988
Page 2

d. We recommend that the White, South Fork, and Main Fork of the Roaring and appropriate portions of the Sandy River be nominated for inclusion in the Federal Wild and Scenic Rivers program.

e. We recommend additional protection of key viewshed areas including the Pacific Crest Trail, roadless and wilderness areas, U.S. 26 corridor, Timothy Lake, and all developed recreation sites and major recreation routes.

f. We recommend protection of substantially larger areas, if not all, remaining stands of old growth forests. These forests have been allowed to decline too rapidly, and at the expense of important fish and wildlife resources. We are disappointed that your preferred alternative calls for accelerated timber harvest even if only temporary. We hope you will reevaluate this management decision.

g. We recommend substantial reduction of proposed road construction. Too often these roads are directly related to water quality problems and decline in critical habitat for both resident and anadromous fish.

In closing, while we are aware of the importance of timber production to the local area around Mt. Hood Forest, we must also note an expanding metropolitan population and tourism industry which will increasingly look to these federal lands to satisfy the growing demand for outdoor recreation opportunities in a quality environment.

We hope you take this into consideration in making your final decision.

Thank you for the opportunity to comment.

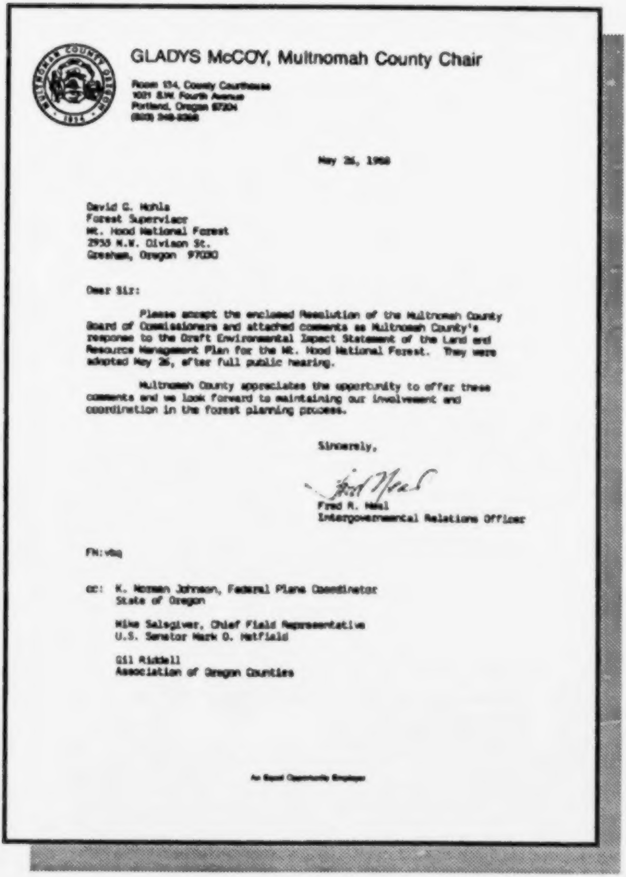
Sincerely,

Charles Cziko
Charles Ciecko
Superintendent

CC:vh

cc: Paul Yarborough

1428p



GLADYS McCOY, Multnomah County Chair

Room 134, County Courthouse
1021 S.W. Fourth Avenue
Portland, Oregon 97204
(503) 248-3308

May 26, 1988

David G. Mohla
Forest Supervisor
Mt. Hood National Forest
2955 N.W. Division St.
Gresham, Oregon 97030

Dear Sir:

Please accept the enclosed Resolution of the Multnomah County Board of Commissioners and attached comments as Multnomah County's response to the Draft Environmental Impact Statement of the Land and Resource Management Plan for the Mt. Hood National Forest. They were adopted May 26, after full public hearing.

Multnomah County appreciates the opportunity to offer these comments and we look forward to maintaining our involvement and coordination in the forest planning process.

Sincerely,

Fred Neal
Fred R. Neal
Intergovernmental Relations Officer

FN:vbq

cc: K. Norman Johnson, Federal Plans Coordinator
State of Oregon

Mike Salsgiver, Chief Field Representative
U.S. Senator Mark O. Hatfield

Gil Riddell
Association of Oregon Counties

An Equal Opportunity Employer

National Forest, and yet incorporates a "departure" timber harvest which violates the principles of long term sustained-yield management. This is justified in the Plan in the interests of maintaining "community stability".

The County's position is that this "balanced approach" should not apply equally to all areas of the forest. The Forest Plan should reflect a geographic relationship to a particular user group. Where communities have demonstrated a need for timber or other commodity resources, the management designations of those forest lands nearby should be a response to that need. Likewise, the forest lands within Multnomah County should be allocated primarily for those resources most useful to the citizens of the County. This sort of approach would truly represent a "balanced consideration of all resources in the land management process" and one which would have the effect of "maximizing overall net public benefits". As the Forest Plan's Economic Impact Analysis has concluded: "Generally, those groups or communities who view or use the forest from an amenity standpoint are positively impacted by amenity-oriented alternatives and negatively affected by those alternatives with a commodity emphasis" (DEIS, Appendix B, P. 85).

Of the more than one million acres which comprise the Mt. Hood National Forest, approximately 72,000 acres (only 7%) are located within Multnomah County. Most of this area is set aside as the Bull Run Watershed and is closed to all public access. For the remaining forest lands within Multnomah County, in order to be consistent with established County policy, resource uses other than timber production must become the focus for management.

I. Larch Mountain Area

The Larch Mountain area is rich in scenic and recreational resources. The scenery visible from the summit of Larch Mountain was accurately portrayed by a recent editorial in *The Oregonian* as "one of the finest views in Oregon" (*Oregonian*, 6/13/88).

Aesthetic awareness of this area, moreover, has always been keen. Sam Lancaster, the engineer responsible for the Old Columbia River Highway, wrote in 1926:

> "Larch Mountain has been called Nature's Grandstand, for such it appears to be in all reality. There is no better viewpoint from which to look on Nature's wondrous beauties as revealed in the rugged, tree-clad Cascade Range. From the summit of Larch Mountain the whole creation round about for many miles is seen in all directions."
>
> - S.C. Lancaster, *The Columbia, America's Great Highway Through the Cascade Mountains to the Sea*, 1926, p. 127.

This book goes on to describe the dense network of recreational trails in the area.

Multnomah County has long been an advocate for scenic resource protection in the Larch Mountain Area. In 1939 the County constructed the Larch Mountain road to provide public access to the viewpoint. Several years later, land was acquired along both sides of this road expressly for scenic purposes. Today the Larch Mountain Corridor is a four-mile long linear parkway extending eastward from the National Forest boundary.

Concern for this area is still strong. On May 5, 1988, the Board of Commissioners adopted a Resolution calling for Special Interest Area (A-4) designation for all forest lands within the Columbia River Gorge National Scenic Area (copy attached).

3. Bull Run Buffer Area

Multnomah County is opposed to the C-1 Timber Emphasis given to the Bull Run Buffer in every alternative of the proposed Forest Plan. We realize that chargeable timber harvest is allowed by law for this area outside the watershed's hydrologic boundary but within the designated Planning Unit. Full Timber Emphasis for this geographic sliver, however, is not compatible with surrounding resource allocations.

The Columbia Wilderness was created by Congress in 1984, and is contiguous to the buffer for nine miles. It is our understanding that language contained within the Senate Background Report to the 1984 Wilderness Act stipulates that this segment of the buffer remain in an "unregulated" condition, precluding timber harvest.

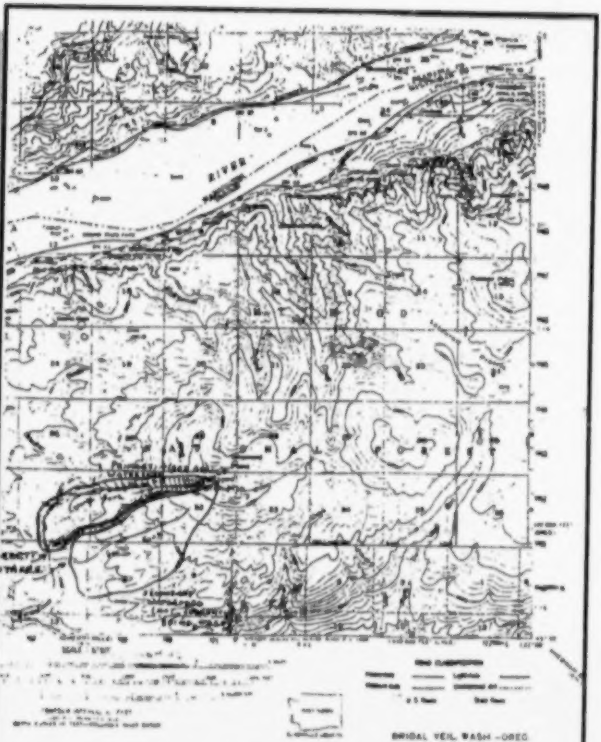
Further south, the Pacific Crest Trail extends for nearly six miles through this buffer strip. While selective cutting may enhance views and vistas from the Trail, the roads required for logging this area are certainly an unwarranted conflict with this national recreational resource.

For the entire buffer area, it seems clear that the economic benefit derived from the relatively small amount of timber available for harvest would not offset the negative impacts caused by logging. And, since this area is technically closed to public access, we suggest devising a special Category A Management Area within the Forest Plan's Preferred Alternative.

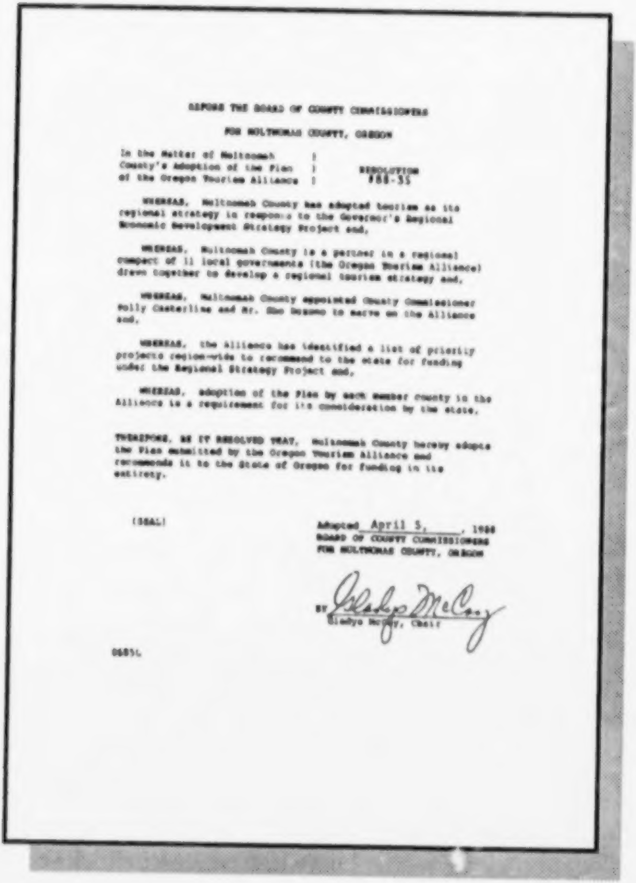
4. Corbett Watershed

The Corbett Water District draws its water for domestic use from the headwaters of Gordon Creek. There are intakes situated on both the North Fork (primary watershed) and the South Fork (secondary watershed). National Forest lands within these watershed areas include nearly all of Section 31 and most of Section 32, T1N, R6E; and most of Section 6 and the Northwest quarter of Section 5, T1S, R6E. A map recently provided to the County by the Oregon Department of Environmental Quality is attached.

The Draft Environmental Impact Statement for the Forest Plan includes a map showing the Corbett Watershed (DEIS, III-12), but the corresponding management category for municipal watersheds (B-6) was not applied to this area in the Preferred Alternative. It is our understanding that this stretch of upper Gordon Creek is classified as a Class I stream, affording some measure of protection. Nevertheless, we question whether this is adequate recognition of


RIVER
BRIDAL VEIL WASH.-OREG.

WATERSHEDS - CORBETT WATER DISTRICT



BEFORE THE BOARD OF COUNTY COMMISSIONERS

FOR MULTNOMAH COUNTY, OREGON

In the Matter of Multnomah)
County's Adoption of the Plan) RESOLUTION
of the Oregon Tourism Alliance) #88-35

WHEREAS, Multnomah County has adopted tourism as its regional strategy in response to the Governor's Regional Economic Development Strategy Project and,

WHEREAS, Multnomah County is a partner in a regional compact of 11 local governments (the Oregon Tourism Alliance) drawn together to develop a regional tourism strategy and,

WHEREAS, Multnomah County appointed County Commissioner Polly Casterline and Mr. Sho Dozono to serve on the Alliance and,

WHEREAS, the Alliance has identified a list of priority projects region-wide to recommend to the state for funding under the Regional Strategy Project and,

WHEREAS, adoption of the Plan by each member county in the Alliance is a requirement for its consideration by the state,

THEREFORE, BE IT RESOLVED THAT, Multnomah County hereby adopts the Plan submitted by the Oregon Tourism Alliance and recommends it to the State of Oregon for funding in its entirety.

(SEAL)

Adopted April 5, , 1988
BOARD OF COUNTY COMMISSIONERS
FOR MULTNOMAH COUNTY, OREGON

BY Gladys McCoy
Gladys McCoy, Chair

0685L

BILL C. BELLAMY
JEFFERSON AND NE DESCHUTES COUNTIES
DISTRICT 55

REPLY TO ADDRESS INDICATED
☐ House of Representatives
Salem, Oregon 97310-1347
☐ [illegible] Lane
Culver, Oregon [illegible]

HOUSE OF REPRESENTATIVES
SALEM, OREGON
97310-1347

May 2 1988

Dave Mohla, Forest Supervisor
Mt. Hood National Forest
2955 NW Division St
Gresham, Oregon 97030

Dear Mr. Mohla:

I attended the meeting organized by Harvey Bones of Mountain Fir Lumber Company in The Dalles and was very impressed with his and that of his management team's presentation. I have also attended meetings in which your employees in So. Wasco county have presented the alternatives for the Forest Management Plan for the Mt. Hood National Forest.

After listening to the alternatives and discussing them, I would encourage the Forest Service not to accept Alternative "E". I believe this alternative will reduce the allowable-cut and actually reduce the timber supply for most of Wasco and Hood River counties.

I would strongly encourage the Forest Service to adopt a plan that would not reduce the timber supply that is presently available. I honestly believe that this could be done and still maintain the recreational, environmental and wildlife goals of alternative "E".

Sincerely,

CLACKAMAS COUNTY

Board of Commissioners

[illegible]

May 23, 1988

David G. Mohla, Forest Supervisor
Mt. Hood National Forest
2955 N. W. Division
Gresham OR 97030

RE: MT. HOOD PROPOSED FOREST PLAN

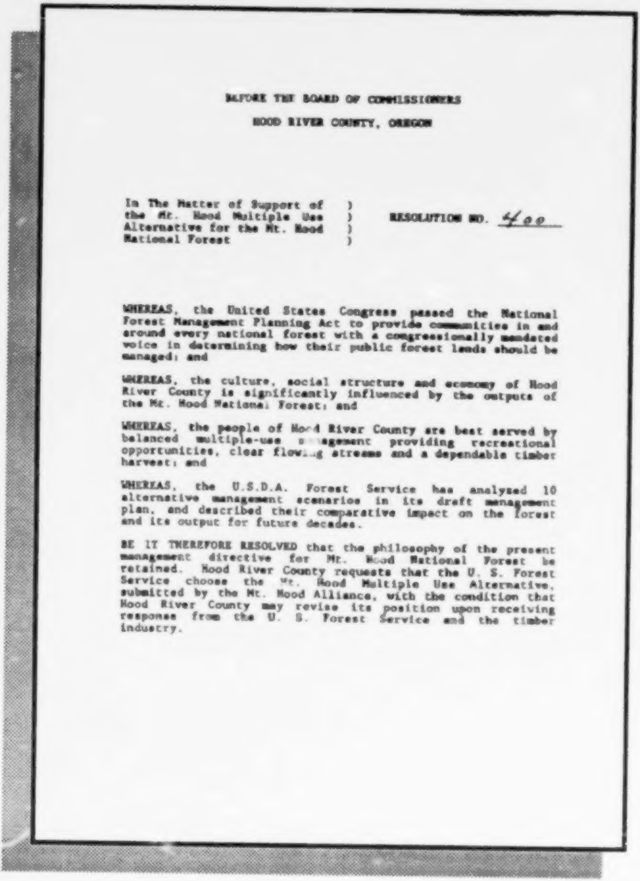
Clackamas County supports the Forest Service's multiple use concept where a balance among the timber industry, recreation, tourism, municipal water supply, and environmental interests is achieved. It appears to Clackamas County that with some modifications Alternative D best achieves this concept.

The County suggests that the land uses reflected in maps labeled Alternative D be modified so that the northern portion of the district around Mt. Hood would have a greater emphasis on recreation, tourism, and environmental concerns while the southern portion of the district in the Clackamas River Drainage would provide a greater emphasis on timber production. Allowances should also be made for expanding the boundaries of the existing ski areas and other recreational facilities.

Clackamas County strongly supports a sustained yield approach to timber production and would like to maintain the highest yield possible for the next decade. We understand that there is some disagreement between the Forest Service and the timber industry regarding the levels of harvest which can be allowed under a sustained yield concept. The County supports any economic increase in yield which can be obtained through better forest management techniques, such as planting of genetically superior seedlings, juvenile spacing, fertilizing on sites where financial returns justify, and use of competing vegetation control methods where required.

Specific recommended changes to Alternative D include:

1. In the "Old Maid Flats" area (as outlined in Alternative A) of the Zig Zag District, add/maintain a viewshed management prescription.



BEFORE THE BOARD OF COMMISSIONERS

HOOD RIVER COUNTY, OREGON

In The Matter of Support of)
the Mt. Hood Multiple Use)
Alternative for the Mt. Hood)
National Forest)

RESOLUTION NO. 400

WHEREAS, the United States Congress passed the National Forest Management Planning Act to provide communities in and around every national forest with a congressionally mandated voice in determining how their public forest lands should be managed; and

WHEREAS, the culture, social structure and economy of Hood River County is significantly influenced by the outputs of the Mt. Hood National Forest; and

WHEREAS, the people of Hood River County are best served by balanced multiple-use management providing recreational opportunities, clear flowing streams and a dependable timber harvest; and

WHEREAS, the U.S.D.A. Forest Service has analyzed 10 alternative management scenarios in its draft management plan, and described their comparative impact on the forest and its output for future decades.

BE IT THEREFORE RESOLVED that the philosophy of the present management directive for Mt. Hood National Forest be retained. Hood River County requests that the U. S. Forest Service choose the Mt. Hood Multiple Use Alternative, submitted by the Mt. Hood Alliance, with the condition that Hood River County may revise its position upon receiving response from the U. S. Forest Service and the timber industry.

NOW THEREFORE, BE IT FURTHER RESOLVED that, Hood River County understands that the Mt. Hood Multiple Use Alternative will also provide for healthy fish and game populations, wilderness, outdoor recreational opportunity and roaded access to these public lands for their stewardship, public use and enjoyment for future generations.

ADOPTED this 16 day of May, 1988.

HOOD RIVER COUNTY BOARD OF COMMISSIONERS

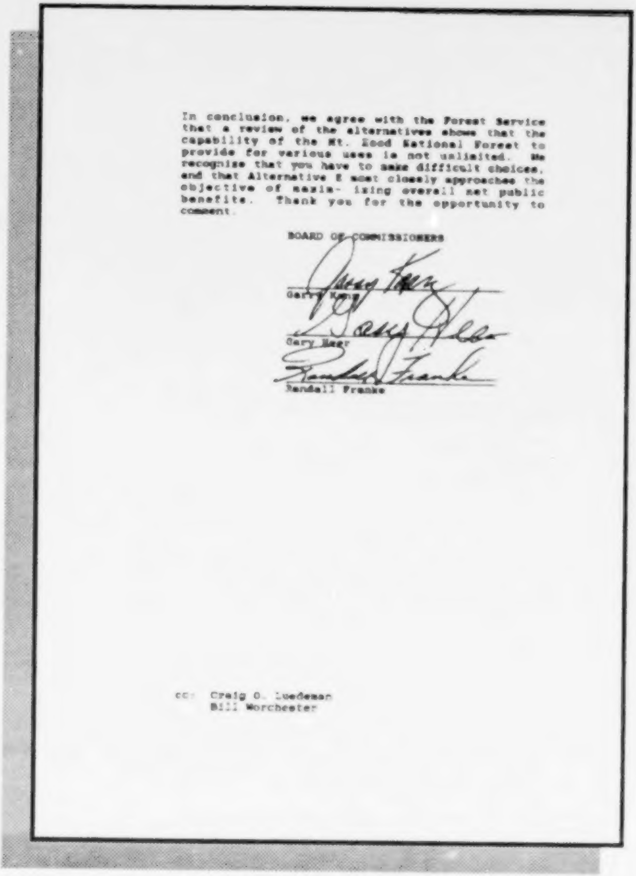
Jerry Routson
Chairman Jerry Routson

Commissioner E. Kent Rosemont

Beverley A. Rowland
Commissioner Beverley A. Rowland

Allen E. Moore
Commissioner Allen E. Moore

Jack Mills
Commissioner Jack Mills



In conclusion, we agree with the Forest Service that a review of the alternatives shows that the capability of the Mt. Hood National Forest to provide for various uses is not unlimited. We recognize that you have to make difficult choices, and that Alternative E most closely approaches the objective of maxim- izing overall net public benefits. Thank you for the opportunity to comment.

BOARD OF COMMISSIONERS

Garry Kanz

Garry Kanz

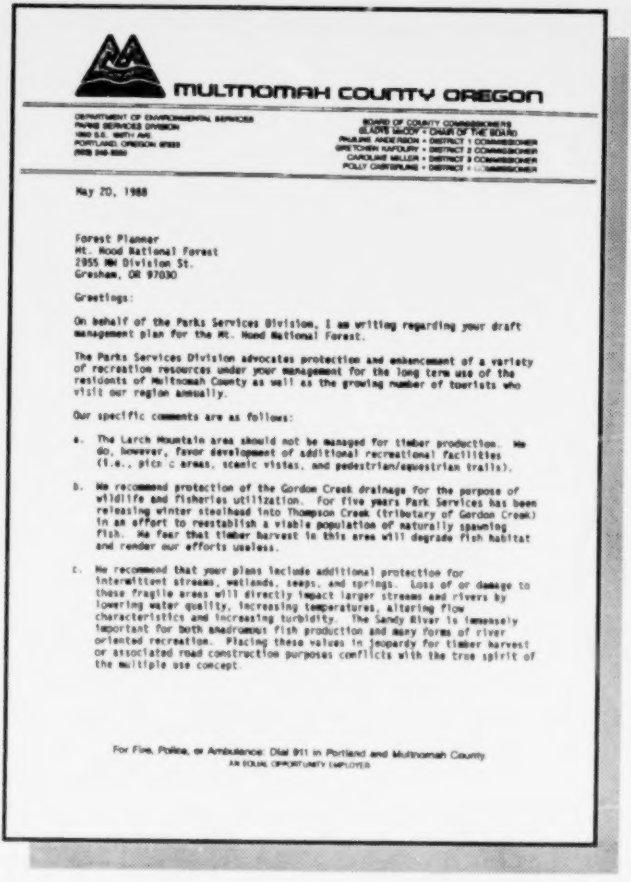
Gary Heer

Gary Heer

Randall Franke

Randall Franke

cc: Craig O. Luedeman
Bill Worchester



MULTNOMAH COUNTY OREGON

DEPARTMENT OF ENVIRONMENTAL SERVICES
PARKS SERVICES DIVISION
[illegible] S.E. [illegible] AVE
PORTLAND, OREGON [illegible]
[illegible]

BOARD OF COUNTY COMMISSIONERS
GLADYS McCOY • CHAIR OF THE BOARD
PAULINE ANDERSON • DISTRICT 1 COMMISSIONER
GRETCHEN KAFOURY • DISTRICT 2 COMMISSIONER
CAROLINE MILLER • DISTRICT 3 COMMISSIONER
POLLY CASTERLINE • DISTRICT 4 COMMISSIONER

May 20, 1988

Forest Planner
Mt. Hood National Forest
2955 NW Division St.
Gresham, OR 97030

Greetings:

On behalf of the Parks Services Division, I am writing regarding your draft management plan for the Mt. Hood National Forest.

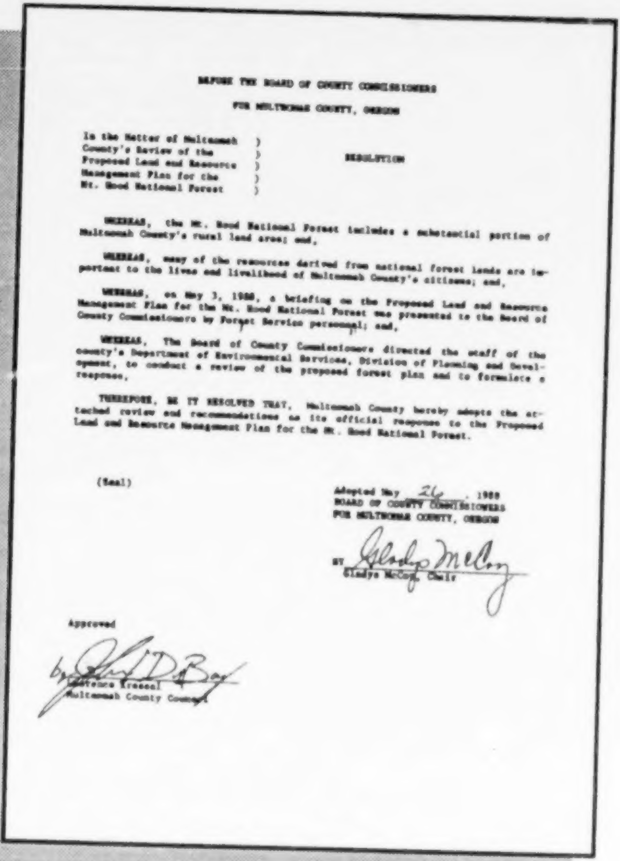
The Parks Services Division advocates protection and enhancement of a variety of recreation resources under your management for the long term use of the residents of Multnomah County as well as the growing number of tourists who visit our region annually.

Our specific comments are as follows:

a. The Larch Mountain area should not be managed for timber production. We do, however, favor development of additional recreational facilities (i.e., picnic areas, scenic vistas, and pedestrian/equestrian trails).

b. We recommend protection of the Gordon Creek drainage for the purpose of wildlife and fisheries utilization. For five years Park Services has been releasing winter steelhead into Thompson Creek (tributary of Gordon Creek) in an effort to reestablish a viable population of naturally spawning fish. We fear that timber harvest in this area will degrade fish habitat and render our efforts useless.

c. We recommend that your plans include additional protection for intermittent streams, wetlands, seeps, and springs. Loss of or damage to these fragile areas will directly impact larger streams and rivers by lowering water quality, increasing temperatures, altering flow characteristics and increasing turbidity. The Sandy River is immensely important for both anadromous fish production and many forms of river oriented recreation. Placing these values in jeopardy for timber harvest or associated road construction purposes conflicts with the true spirit of the multiple use concept.



BEFORE THE BOARD OF COUNTY COMMISSIONERS

FOR MULTNOMAH COUNTY, OREGON

In the Matter of Multnomah)
County's Review of the)
Proposed Land and Resource) RESOLUTION
Management Plan for the)
Mt. Hood National Forest)

WHEREAS, the Mt. Hood National Forest includes a substantial portion of Multnomah County's rural land area; and,

WHEREAS, many of the resources derived from national forest lands are important to the lives and livelihood of Multnomah County's citizens; and,

WHEREAS, on May 3, 1986, a briefing on the Proposed Land and Resource Management Plan for the Mt. Hood National Forest was presented to the Board of County Commissioners by Forest Service personnel; and,

WHEREAS, The Board of County Commissioners directed the staff of the county's Department of Environmental Services, Division of Planning and Development, to conduct a review of the proposed forest plan and to formulate a response,

THEREFORE, BE IT RESOLVED THAT, Multnomah County hereby adopts the attached review and recommendations as its official response to the Proposed Land and Resource Management Plan for the Mt. Hood National Forest.

(Seal)

Adopted May 26, 1986
BOARD OF COUNTY COMMISSIONERS
FOR MULTNOMAH COUNTY, OREGON

BY Gladys McCoy
Gladys McCoy, Chair

Approved

by
Laurence Kressel
Multnomah County Counsel

Multnomah County has reviewed the Proposed Land and Resource Management Plan and Draft Environmental Impact Statement for the Mt. Hood National Forest. The proposed Forest Plan documents, along with the maps designating various management areas for the different alternatives, were carefully examined in the context of existing Findings and Policies contained within the County's Comprehensive Framework Plan (CFP).

As required by State Law, the Framework Plan was developed and formulated with substantial citizen participation. The Plan's Findings and Policies reflect the many value judgements and collective decisions made by the citizens of Multnomah County during the course of the Plan adoption process.

We wish to respond to the proposed Mt. Hood National Forest Plan with regard to the following issues and concerns:

1. Overall Consistency with Comprehensive Framework Plan

Local Comprehensive Plans are addressed in two places within the Forest Plan documents (DEIS, Chapter III; DEIS, Appendix B). The Forest Plan correctly points out that Multnomah County's Comprehensive Framework Plan "calls for the encouragement of economic development including industries which process natural resources" (DEIS, III - 102). There is insufficient recognition, however, of other CFP Findings and Policies directly related to the full range of land and resource management strategies possible on the Mt. Hood National Forest.

Due to the predominately urban population of the County, other resources take precedence in the public perception of the value of national forest lands. The Comprehensive Framework Plan reflects this emphasis on the so-called "amenity values" of recreation and scenery, as well as more tangible nontimber forest resource uses such as wildlife habitat and domestic watersheds.

> Forests provide recreation, water retention, erosion control, wildlife habitat and visual relief for urban areas (CFP-I, P. 19).
>
> One of the most valuable assets of the County's forests is the opportunity for recreation in close proximity to the metropolitan area. Opportunities exist for camping, hiking, hunting, picnicking, sightseeing, photography, and other pursuits. With energy considerations becoming more important, the resources close to urban areas could become of much greater value for recreation. (CFP-I, P. 139).

These Findings are reinforced in the County's Policy document. It is Multnomah County's policy to "encourage the development of recreation opportunities by other public agencies" (Policy 39, CFP-II, P. 173).

Highlighting the County's desire for greater attention to the forest's scenic and recreational resources is a recent official action by the Board of Commissioners adopting tourism as the County's regional strategy in response to the Governor's Regional Economic Development Strategy Project (Resolution #88-45, adopted April 5, 1988).

The Preferred Alternative (Alternative E) set forth in the Forest Plan attempts a balanced, multiple-use strategy toward the resources of the Mt. Hood the need to ensure provision of high quality drinking water for the Corbett Water District. We assume that the B-6 Management Area designation was developed for just this purpose, and would suggest its application here.

5. Wildlife

As identified within the Comprehensive Framework Plan using maps provided by the Oregon Department of Fish and Wildlife, a portion of a critical big game habitat area (elk and deer winter range) is located within the National Forest to the south of the Corbett Watershed discussed above. The area in question encompasses the SW 1/4 Section 6 and the NW 1/4 Section 7, T1S, R6E. Rather than the C-1 Timber Emphasis management category proposed under the Preferred Alternative for this area, we would support a B-9 "Wildlife Visual" management designation.

The application of the B-9 category to this area would provide quality habitat components such as forage, browse, and sufficient cover required by these animals; the C-1 Timber Emphasis would not. The Draft Environmental Impact Statement cites two examples of areas that "have been extensively harvested and now contain large expanses of sapling-size timber. They do not provide a desirable mixture of wildlife habitats because they lack hiding and thermal cover. Because cover is not available, animals do not come to eat the generous amount of browse growing in the areas. When the stands mature, cover will become abundant. But then the cover will shade out grass and forbs, and once again habitat diversity will be far below optimum" (DEIS, III-31). Silvicultural techniques required by the management directions of the B-9 category should prevent these undesirable conditions.

Other critical habitat areas identified on the County's Comprehensive Plan are located within the Columbia River Gorge National Scenic Area. We assume the A-4 Special Interest Area designation proposed for Forest lands within the Scenic Area will ensure adequate protective measures for wildlife resources.

Another wildlife issue of concern to the County is the Larch Mountain salamander. Although considered neither "threatened" nor "endangered", the Larch Mountain salamander has been listed as a special interest species in the 1975 Forest Service publication *Research Natural Area Needs in the Pacific Northwest* (p. 322). The Oregon Natural Heritage Program relates that the salamander is "endemic to the Columbia River Gorge" and is "unique because of his restricted distribution" (ONHP, Multnomah County Data Summary, December, 1976).

The Draft Environmental Impact Statement identifies the Larch Mountain salamander as a "sensitive species" (DEIS, III-32). Management Directions outlined in Chapter 4 of the Forest Plan maintain that "threatened, endangered, or sensitive species, and habitat for these species, shall not be adversely affected" (Proposed Forest Plan, 4-26). But as the DEIS points out, "Because little is known about the requirements of the Larch Mountain salamander, the Forest has no management plan for its habitats" (DEIS, III-34).

The Preferred Alternative designates areas comprising much of this species' suspected range as C-1 and B-2, management categories permitting timber harvest. We are concerned, therefore, that this animal and its particular habitat requirements may be adversely affected before anything more is known about them. We suggest that a monitoring and evaluation program specific to the

Larch Mountain salamander.. be established. Funds and personnel resources should be allocated to further study, and specific monitoring directions should be spelled out in Chapter 5 of the Forest Plan, similar to the way indicator species have been addressed.

6. Old Growth Forest

We note with great interest the designation of an area under Alternative D as A-7, "Old Growth". This area within Multnomah County is located just inside the western boundary of the National Forest in Sections 19, 30, 31, T1N,R6E; and Section 6, T1S,R6E. Alternative E, the "Preferred Alternative", has no A-7 management areas at all, which seems to indicate a lack of balance for this alternative considered to be "a balanced approach" to forest resource management.

The County strongly recommends the incorporation of at least some portion of this A-7 management area into the Forest Plan. At the point where the Larch Mountain Road crosses the national forest boundary, Forest Road #1509 heads south into the heart of the area designated as A-7 under Alternative D. There is a great opportunity here for public education and for fostering awareness of the workings of a forest ecosystem. Keep in mind that Larch Mountain Road is a paved County-maintained parkway lined on both sides for four miles up to this point by the Larch Mountain Corridor. These stands of old-growth are probably the most accessible on the entire forest, and would serve as ideal examples of this fast disappearing environment. Preserving these remnants would fulfill all of the potential activities listed for this management area: "walk-in dispersed recreation, habitat improvement projects for fish and wildlife, and educational or interpretive activities". A short series of self-guided nature trails could easily be constructed from pull-outs along Forest Road #1509. By linking this area with the existing Larch Mountain Corridor and the scenic viewpoint at the summit, a multi-faceted and highly educational recreation resource is created for the considerable number of visitors using this portion of the Mt. Hood National Forest. Proposals for the protection of other non-timber resource values (there is some overlap, for example, with the Corbett Watershed discussed earlier) would be entirely consistent with these management directions. For these reasons, we urge you to consider designating this area as A-7, Old-Growth.

Multnomah County appreciates the opportunity to offer these comments on the Proposed Land and Resource Management Plan for the Mt. Hood National Forest, and we look forward to maintaining our involvement and coordination in the forest planning process.

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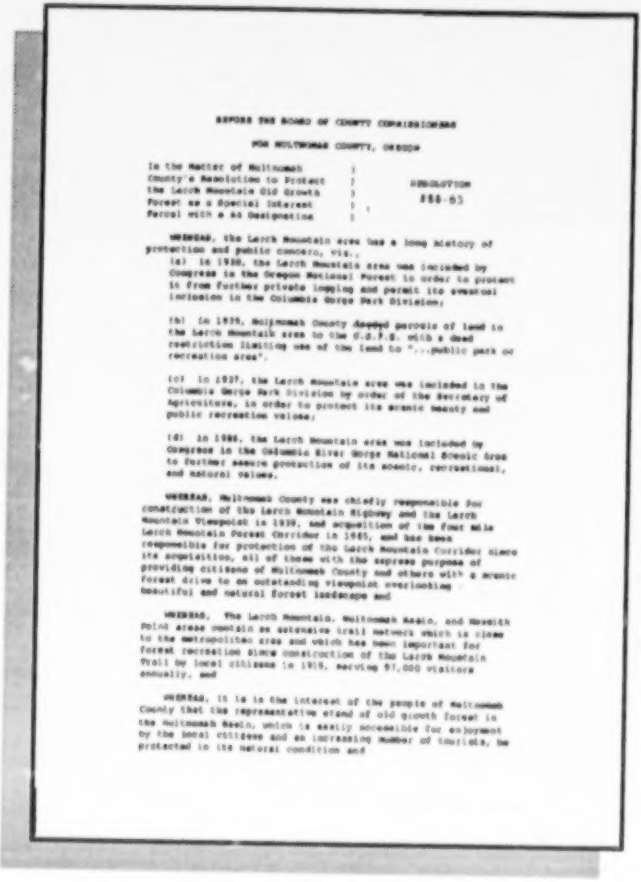


BEFORE THE BOARD OF COUNTY COMMISSIONERS

FOR MULTNOMAH COUNTY, OREGON

In the Matter of Multnomah)
County's Resolution to Protect) RESOLUTION
the Larch Mountain Old Growth) #88-63
Forest as a Special Interest)
Parcel with a 3C Designation)

WHEREAS, the Larch Mountain area has a long history of protection and public concern, viz.,

(a) In 1920, the Larch Mountain area was included by Congress in the Oregon National Forest in order to protect it from further private logging and permit its eventual inclusion in the Columbia Gorge Park Division;

(b) In 1935, Multnomah County deeded parcels of land in the Larch Mountain area to the U.S.F.S. with a deed restriction limiting use of the land to "...public park or recreation area".

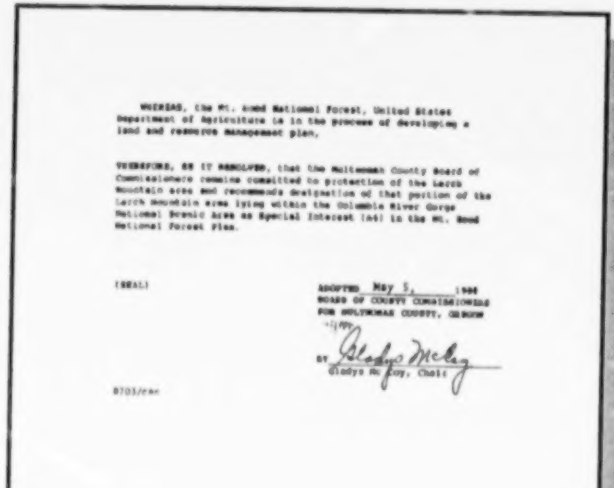
(c) In 1937, the Larch Mountain area was included in the Columbia Gorge Park Division by order of the Secretary of Agriculture, in order to protect its scenic beauty and public recreation values;

(d) In 1986, the Larch Mountain area was included by Congress in the Columbia River Gorge National Scenic Area to further assure protection of its scenic, recreational, and natural values.

WHEREAS, Multnomah County was chiefly responsible for construction of the Larch Mountain Highway and the Larch Mountain Viewpoint in 1939, and acquisition of the four mile Larch Mountain Forest Corridor in 1985, and has been responsible for protection of the Larch Mountain Corridor since its acquisition, all of these with the express purpose of providing citizens of Multnomah County and others with a scenic forest drive to an outstanding viewpoint overlooking beautiful and natural forest landscape and

WHEREAS, The Larch Mountain, Multnomah Basin, and Nesmith Point areas contain an extensive trail network which is close to the metropolitan area and which has been important for forest recreation since construction of the Larch Mountain Trail by local citizens in 1915, serving 97,000 visitors annually, and

WHEREAS, it is in the interest of the people of Multnomah County that the representative stand of old growth forest in the Multnomah Basin, which is easily accessible for enjoyment by the local citizens and an increasing number of tourists, be protected in its natural condition and



WHEREAS, the Mt. Hood National Forest, United States Department of Agriculture is in the process of developing a land and resource management plan,

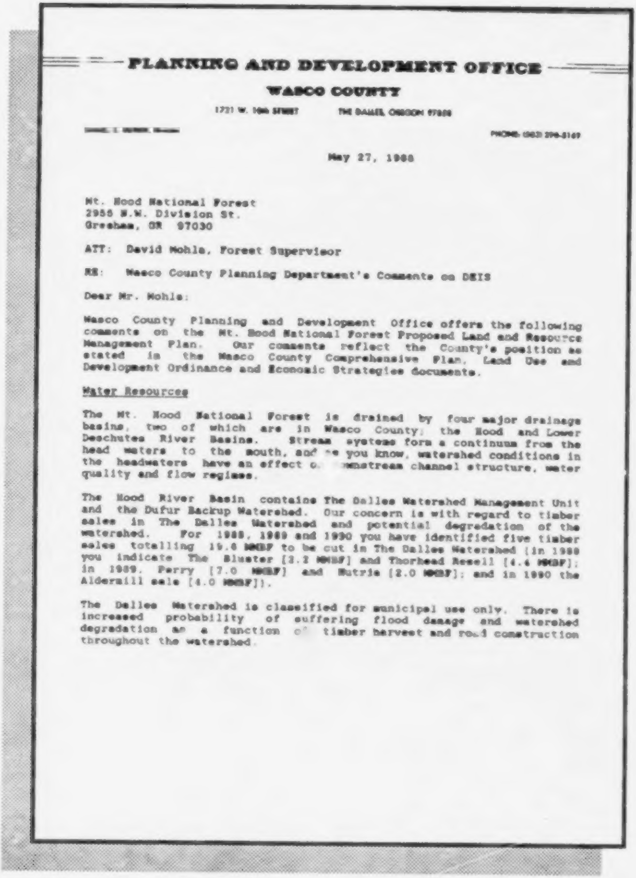
THEREFORE, BE IT RESOLVED, that the Multnomah County Board of Commissioners remains committed to protection of the Larch Mountain area and recommends designation of that portion of the Larch Mountain area lying within the Columbia River Gorge National Scenic Area as Special Interest (SI) in the Mt. Hood National Forest Plan.

(SEAL)

ADOPTED May 5, 1988
BOARD OF COUNTY COMMISSIONERS
FOR MULTNOMAH COUNTY, OREGON

BY Gladys McCoy
Gladys McCoy, Chair

0703/ccc



PLANNING AND DEVELOPMENT OFFICE

WASCO COUNTY

1721 W. 10th STREET THE DALLES, OREGON 97058

[illegible] PHONE (503) 296-2169

May 27, 1988

Mt. Hood National Forest
2955 N.W. Division St.
Gresham, OR 97030

ATT: David Mohla, Forest Supervisor

RE: Wasco County Planning Department's Comments on DEIS

Dear Mr. Mohla:

Wasco County Planning and Development Office offers the following comments on the Mt. Hood National Forest Proposed Land and Resource Management Plan. Our comments reflect the County's position as stated in the Wasco County Comprehensive Plan, Land Use and Development Ordinance and Economic Strategies documents.

Water Resources

The Mt. Hood National Forest is drained by four major drainage basins, two of which are in Wasco County; the Hood and Lower Deschutes River Basins. Stream systems form a continuum from the head waters to the mouth, and as you know, watershed conditions in the headwaters have an effect on downstream channel structure, water quality and flow regimes.

The Hood River Basin contains The Dalles Watershed Management Unit and the Dufur Backup Watershed. Our concern is with regard to timber sales in The Dalles Watershed and potential degradation of the watershed. For 1988, 1989 and 1990 you have identified five timber sales totalling 19.6 MMBF to be cut in The Dalles Watershed (in 1988 you indicate The Bluster [2.2 MMBF] and Thorhead Resell [4.4 MMBF]; in 1989, Perry [7.0 MMBF] and Nutria [2.0 MMBF]; and in 1990 the Aldermill sale [4.0 MMBF]).

The Dalles Watershed is classified for municipal use only. There is increased probability of suffering flood damage and watershed degradation as a function of timber harvest and road construction throughout the watershed.

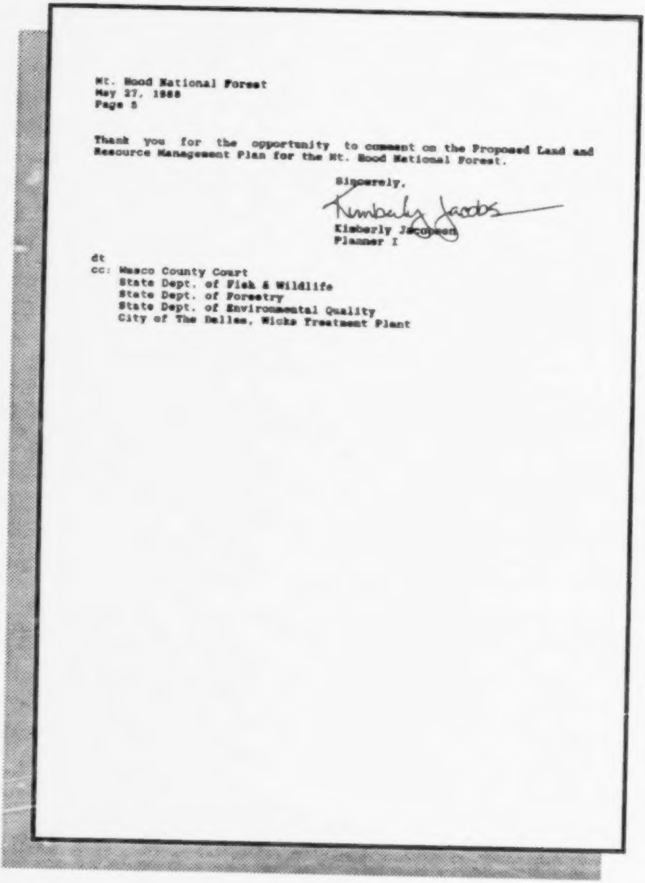
Watershed stability information needs to be presented more clearly. It is difficult to compare and analyze the combined effects of timber harvest, dispersion constraints and road mileage on watershed stability. We request more clarity on analysis of cumulative effects on The Dalles Watershed in your revised documents.

Additional concern in the Hood River Basin is with regard to reduced stream flow, turbidity, and non-point source pollution affecting fish habitat in Fifteenmile Creek. DEQ has identified Fifteenmile, Eightmile and Fivemile Creeks as experiencing moderate to severe problems with the above mentioned issues. Declining watershed conditions pose a significant threat to outputs such as water quantity, water quality, fish and aquatic habitat and recreation. The various watersheds are not identified or mapped, nor is it clear what the management policies are for reversing declining watershed conditions. It would be helpful if this information was arrayed in tabular form.

The Lower Deschutes River Basin concentrates on the recreation, fish and wildlife values of the mainstream Deschutes River. Again, DEQ has identified reduced stream flow and non-point source pollution as affecting Rock, Jordan, Antelope, Squaw, Tumalo and McKay Creeks in the Deschutes River Basin. Please indicate future enhancement actions for these creeks in your revised documents.

In reiterating the State of Oregon's comments let us stress: "Your water standards be amended to include at the minimum, water quantity and quality shall be maintained, and enhanced where necessary to meet other resource objectives such as fisheries and municipal supply. This should take into account minimum stream flows established on Forest or adjacent to the Forest, and impose land management guidelines consistent with maintaining instream flow levels. Maintaining minimum streamflow levels is especially important in eastside river basins (Hood River and Lower Deschutes)."

In addition, the standard should require that management activities (timber harvest and road building) minimize the risk to peak flows and earth flows at the drainage level based on the watershed stability index. Drainages with low index ratings should not be scheduled for timber harvest activities until stabilized.



Mt. Hood National Forest
May 27, 1988
Page 5

Thank you for the opportunity to comment on the Proposed Land and Resource Management Plan for the Mt. Hood National Forest.

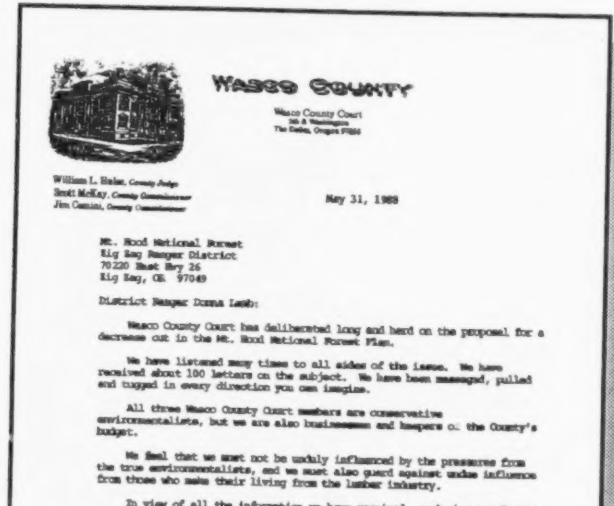
Sincerely,

Kimberly Jacobs

Kimberly Jacobsen
Planner I

dt

cc: Wasco County Court
State Dept. of Fish & Wildlife
State Dept. of Forestry
State Dept. of Environmental Quality
City of The Dalles, Wicks Treatment Plant



WASCO COUNTY

Wasco County Court
[illegible]
The Dalles, Oregon [illegible]

William L. Hulse, County Judge
Scott McKay, County Commissioner
Jim Comini, County Commissioner

May 31, 1988

Mt. Hood National Forest
Zig Zag Ranger District
70220 East Hwy 26
Zig Zag, OR 97049

District Ranger Donna Lamb:

Wasco County Court has deliberated long and hard on the proposal for a decrease cut in the Mt. Hood National Forest Plan.

We have listened many times to all sides of the issue. We have received about 100 letters on the subject. We have been massaged, pulled and tugged in every direction you can imagine.

All three Wasco County Court members are conservative environmentalists, but we are also businessmen and keepers o. the County's budget.

We feel that we must not be unduly influenced by the pressures from the true environmentalists, and we must also guard against undue influence from those who make their living from the lumber industry.

In view of all the information we have received, reviewing our County road budget, and realizing the tremendous positive influence the timber industry has on our County; Wasco County Court, on the 18th day of May, 1988, unanimously passed a recommendation calling for No Change in relation to the proposed new Forest Plan.

We strongly feel that with proper management we can have a sustained cut, clean water, adequate recreation and everyone will be happy.

Thank you for the opportunity to respond to the Mt. Hood Forest Plan.

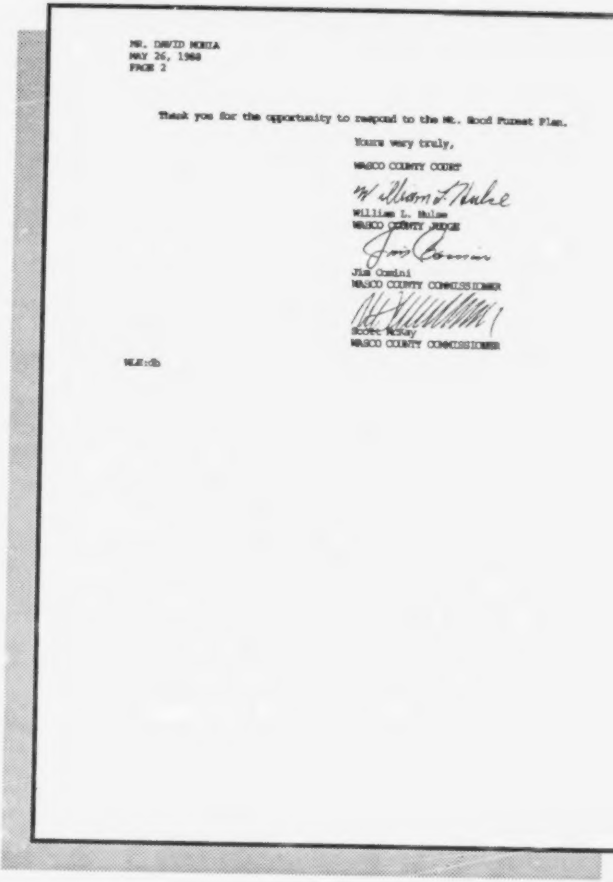
Yours very truly,

WASCO COUNTY COURT

William L. Hulse

William L. Hulse
WASCO COUNTY JUDGE

[illegible]



MR. DAVID MOHLA
MAY 26, 1988
PAGE 2

Thank you for the opportunity to respond to the Mt. Hood Forest Plan.

Yours very truly,

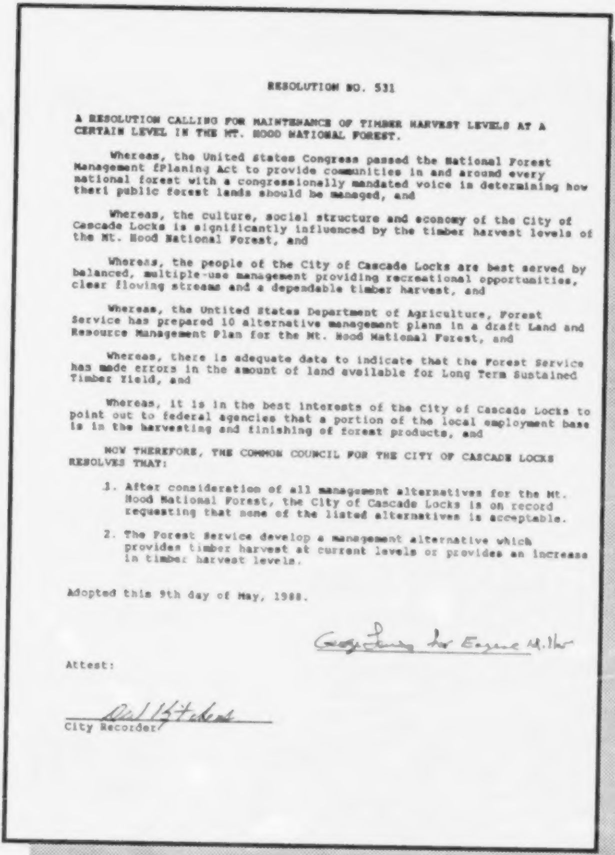
WASCO COUNTY COURT

William L. Hulse
William L. Hulse
WASCO COUNTY JUDGE

Jim Comini
Jim Comini
WASCO COUNTY COMMISSIONER

Scott McKay
WASCO COUNTY COMMISSIONER

WLH:db



RESOLUTION NO. 531

A RESOLUTION CALLING FOR MAINTENANCE OF TIMBER HARVEST LEVELS AT A CERTAIN LEVEL IN THE MT. HOOD NATIONAL FOREST.

Whereas, the United states Congress passed the National Forest Management fPlaning Act to provide communities in and around every national forest with a congressionally mandated voice in determining how theri public forest lands should be managed, and

Whereas, the culture, social structure and economy of the City of Cascade Locks is significantly influenced by the timber harvest levels of the Mt. Hood National Forest, and

Whereas, the people of the City of Cascade Locks are best served by balanced, multiple-use management providing recreational opportunities, clear flowing streams and a dependable timber harvest, and

Whereas, the Untited States Department of Agriculture, Forest Service has prepared 10 alternative management plans in a draft Land and Resource Management Plan for the Mt. Hood National Forest, and

Whereas, there is adequate data to indicate that the Forest Service has made errors in the amount of land available for Long Term Sustained Timber Yield, and

Whereas, it is in the best interests of the City of Cascade Locks to point out to federal agencies that a portion of the local employment base is in the harvesting and finishing of forest products, and

NOW THEREFORE, THE COMMON COUNCIL FOR THE CITY OF CASCADE LOCKS RESOLVES THAT:

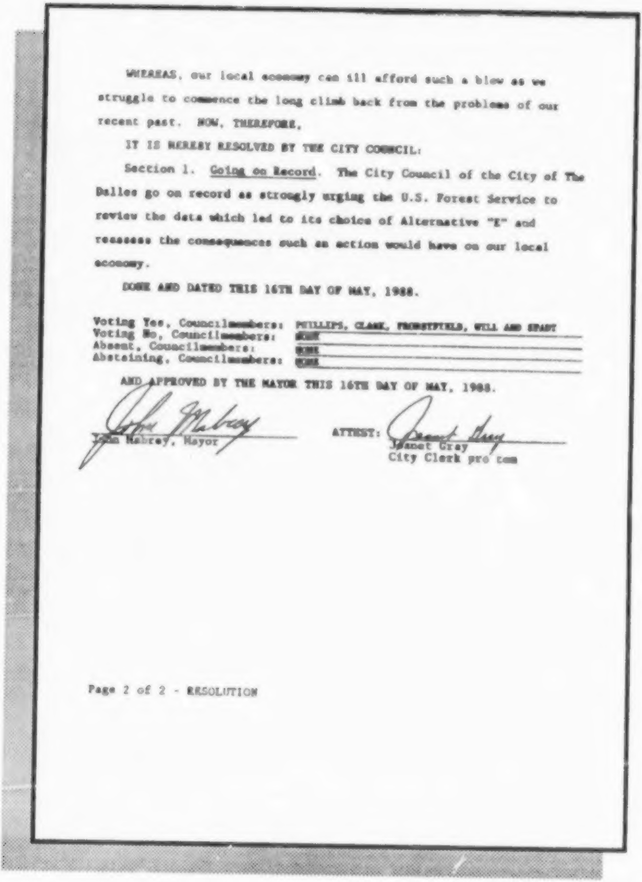
1. After consideration of all management alternatives for the Mt. Hood National Forest, the City of Cascade Locks is on record requesting that none of the listed alternatives is acceptable.
2. The Forest Service develop a management alternative which provides timber harvest at current levels or provides an increase in timber harvest levels.

Adopted this 9th day of May, 1988.

George Lang for Eugene Miller

Attest:

City Recorder



WHEREAS, our local economy can ill afford such a blow as we struggle to commence the long climb back from the problems of our recent past. NOW, THEREFORE,

IT IS HEREBY RESOLVED BY THE CITY COUNCIL:

Section 1. Going on Record. The City Council of the City of The Dalles go on record as strongly urging the U.S. Forest Service to review the data which led to its choice of Alternative "E" and reassess the consequences such an action would have on our local economy.

DONE AND DATED THIS 16TH DAY OF MAY, 1988.

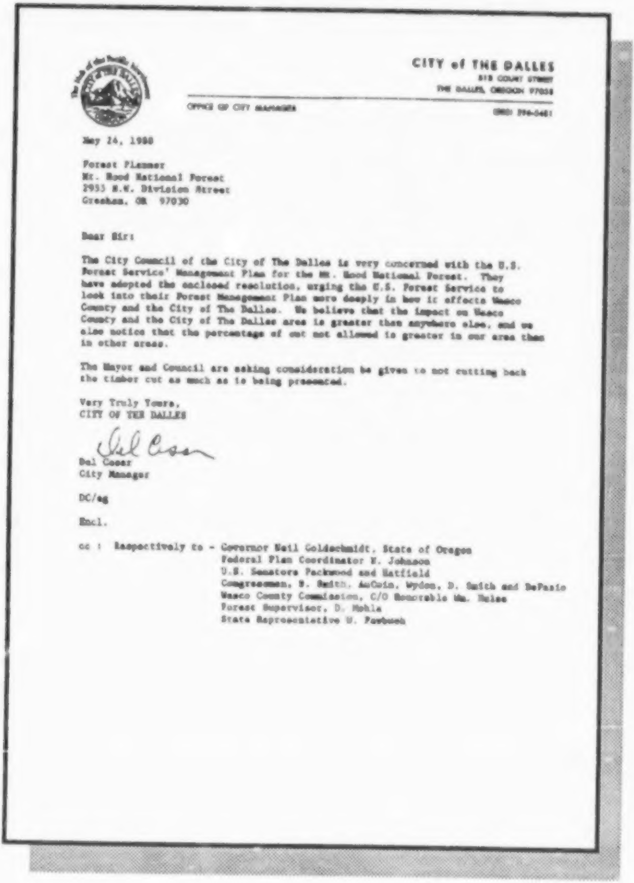
Voting Yes, Councilmembers: PHILLIPS, CLARK, FRONSTFIELD, WILL AND SPADT
Voting No, Councilmembers: NONE
Absent, Councilmembers: NONE
Abstaining, Councilmembers: NONE

AND APPROVED BY THE MAYOR THIS 16TH DAY OF MAY, 1988.

John Mabrey
John Mabrey, Mayor

ATTEST: Jeanet Gray
Jeanet Gray
City Clerk pro tem

Page 2 of 2 - RESOLUTION



CITY of THE DALLES
313 COURT STREET
THE DALLES, OREGON 97058

OFFICE OF CITY MANAGER

(503) 296-5481

May 24, 1988

Forest Planner
Mt. Hood National Forest
2955 N.W. Division Street
Gresham, OR 97030

Dear Sir:

The City Council of the City of The Dalles is very concerned with the U.S. Forest Service' Management Plan for the Mt. Hood National Forest. They have adopted the enclosed resolution, urging the U.S. Forest Service to look into their Forest Management Plan more deeply in how it effects Wasco County and the City of The Dalles. We believe that the impact on Wasco County and the City of The Dalles area is greater than anywhere else, and we also notice that the percentage of cut not allowed is greater in our area than in other areas.

The Mayor and Council are asking consideration be given to not cutting back the timber cut as much as is being presented.

Very Truly Yours,
CITY OF THE DALLES

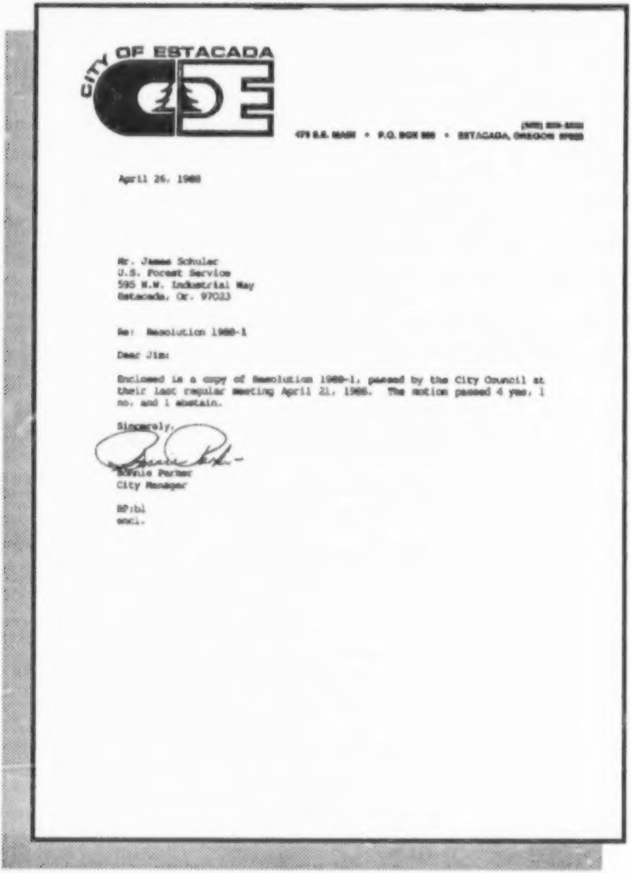
Del Coser

Del Coser
City Manager

DC/eg

Encl.

cc : Respectively to - Governor Neil Goldschmidt, State of Oregon
Federal Plan Coordinator N. Johnson
U.S. Senators Packwood and Hatfield
Congressmen, B. Smith, AuCoin, Wyden, D. Smith and DeFazio
Wasco County Commission, C/O Honorable Wm. Hulse
Forest Supervisor, D. Mohla
State Representative W. Fawbush



CITY OF ESTACADA

[illegible]
475 S.E. MAIN • P.O. BOX [illegible] • ESTACADA, OREGON 97023

April 26, 1988

Mr. James Schuler
U.S. Forest Service
595 N.W. Industrial Way
Estacada, Or. 97023

Re: Resolution 1988-1

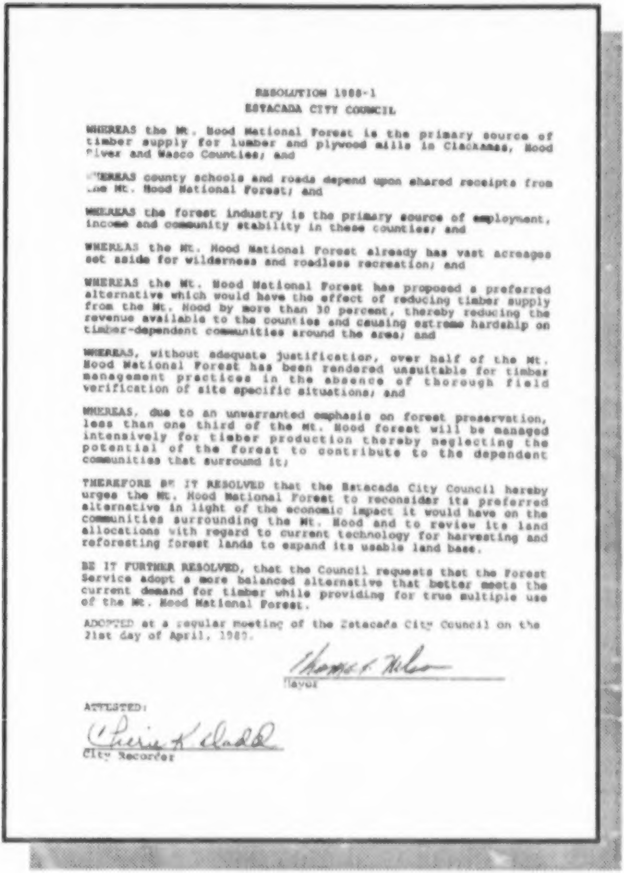
Dear Jim:

Enclosed is a copy of Resolution 1988-1, passed by the City Council at their last regular meeting April 21, 1988. The motion passed 4 yes, 1 no, and 1 abstain.

Sincerely,

Bonnie Parker
City Manager

BP:bl
encl.



RESOLUTION 1988-1

ESTACADA CITY COUNCIL

WHEREAS the Mt. Hood National Forest is the primary source of timber supply for lumber and plywood mills in Clackamas, Hood River and Wasco Counties; and

WHEREAS county schools and roads depend upon shared receipts from the Mt. Hood National Forest; and

WHEREAS the forest industry is the primary source of employment, income and community stability in these counties; and

WHEREAS the Mt. Hood National Forest already has vast acreages set aside for wilderness and roadless recreation; and

WHEREAS the Mt. Hood National Forest has proposed a preferred alternative which would have the effect of reducing timber supply from the Mt. Hood by more than 30 percent, thereby reducing the revenue available to the counties and causing extreme hardship on timber-dependent communities around the area; and

WHEREAS, without adequate justification, over half of the Mt. Hood National Forest has been rendered unsuitable for timber management practices in the absence of thorough field verification of site specific situations; and

WHEREAS, due to an unwarranted emphasis on forest preservation, less than one third of the Mt. Hood forest will be managed intensively for timber production thereby neglecting the potential of the forest to contribute to the dependent communities that surround it;

THEREFORE BE IT RESOLVED that the Estacada City Council hereby urges the Mt. Hood National Forest to reconsider its preferred alternative in light of the economic impact it would have on the communities surrounding the Mt. Hood and to review its land allocations with regard to current technology for harvesting and reforesting forest lands to expand its usable land base.

BE IT FURTHER RESOLVED, that the Council requests that the Forest Service adopt a more balanced alternative that better meets the current demand for timber while providing for true multiple use of the Mt. Hood National Forest.

ADOPTED at a regular meeting of the Estacada City Council on the 21st day of April, 1988.

Mayor

ATTESTED:

City Recorder

Timber

Several communities rely heavily on the Forest for timber. Counties benefit from harvesting since they receive 25 percent of the gross receipts. These revenues are used for schools and roads. Lumber and wood employment comprises nearly 35 percent of manufacturing employment for Wasco County, compared to a 32.8 percent statewide proportion. Wasco County has become more economically diversified due to the reopening of the aluminum smelter at The Dalles as well as increased tourism/recreation. Communities like Maupin, however, rely heavily on the timber industry.

Timber harvest related employment and county payments will probably fall under the scenario of the preferred Alternative E. A drop in the amount of sawtimber available to mills is evident since the proposed allowable sale quantity is 1) lower than both the historical harvest and sale and 2) lower than recent sale and harvest quantities (1985-87). The composition of the harvest is moving toward less green and salvage timber. This drop in available sawtimber will translate into fewer jobs and lower county payments. The employment loss will depend upon whether private or other public lands can compensate and whether mill owners decide to trim a shift or close a mill. The regional economist for Wasco County estimates a loss of roughly 100 to 125 jobs in the lumber and wood industry.

"Forest industry contributes more to the economy than its direct employment and payroll. As expenditures by forest industry ripple through the economy, almost three more indirect jobs are created for each direct job." Source: 1986 Oregon Forest Resource, Oregon State Board of Forestry.

Comparing your proposed ASQ (268MMBF) to the ASQ portion of the potential yield (379) in your 1977 Timber Resource Plan, it appears that the maximum permitted sale level will decrease by 111 MMBF (29%). Therefore, it appears that your ability to make a relatively increasing economic contribution to the economic health of your timber dependent communities (an opportunity you previously could realize as you moved toward achieving the potential yield) will no longer exist once your preferred alternative is implemented.

It is not clear why you are proposing a reduction in timber sales. Please clarify.

The domestic timber market may be soft due to slow housing starts, however timber demand balances out due to increase timber demand from the Pacific Rim countries. In light of recent large export increases over the last year and the falling dollar, export prospects look very bright. Further, Japanese housing starts may equal or exceed US housing starts, thereby keeping the demand for Northwest products high. The Forest Service should revise their comments about exports to the Pacific Rim countries. (DEIS p. III-47.)

We urge the Forest Service to reevaluate allowable sale quantities with respect to sustained yield. Check and update timber inventory and yield and clearly address suitable and unsuitable timber lands. We feel that your data may be outdated and inaccurate.

Wild and Scenic Rivers

Senator Hatfield's recent Scenic Rivers bill is proposing the White River be eligible for Scenic designation. We believe that your discussion of the White River could be improved.

Cultural Resources

The Barlow Road is a cultural resource of national importance. The entire road is a National Historic Trail. The eastern half of the Road is the most intact and continuous section. It could be impacted seriously under some of the alternatives. We ask you to evaluate the impact of each of your alternatives on the Barlow Road. This is not done now in the DEIS.

Land Use Planning

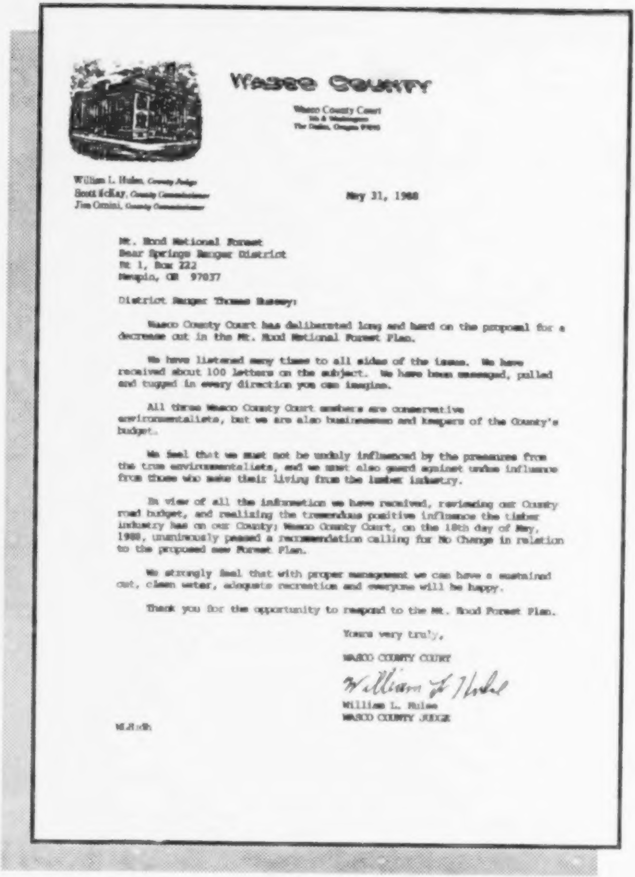
We appreciate the effort in addressing coordination with Wasco County's land use plans. It is clear that you are aware of the effects that incompatible development and land uses have on forest management. For clarification it would be helpful if the Forest could map county zoning districts in relation to surrounding and interspersed federal holdings. Also please consider including an explanation on how the Forest satisfies the statewide planning goals.

Inclusion of land use coordination information in National Forest plans is valuable for strengthening federal-state-local coordination. We would like to ask you to do more to support your conclusions on the nature and level of land use conflicts with the Wasco County Plan.

Conclusion

Many of our comments reflect not only our official County documents but also the views of various State agencies and private corporations that are in keeping with the County's position. We have reviewed the State of Oregon's Coordinated response to the Mt. Hood Plan and feel that their detailed response is representative of our concerns here in Wasco County.

Finally, we urge you to continue managing the Mt. Hood National Forest under the existing management plan until amendments to the existing plan are developed and approved. In the interim, constraints should not be applied to existing plans in contemplation of the new plan without full public participation.



WASCO COUNTY

Wasco County Court
5th & Washington
The Dalles, Oregon 97058

William L. Hulse, County Judge
Scott McKay, County Commissioner
Jim Comini, County Commissioner

May 31, 1988

Mt. Hood National Forest
Bear Springs Ranger District
Rt 1, Box 222
Maupin, OR 97037

District Ranger Thomas Hussey:

Wasco County Court has deliberated long and hard on the proposal for a decrease cut in the Mt. Hood National Forest Plan.

We have listened many times to all sides of the issue. We have received about 100 letters on the subject. We have been massaged, pulled and tugged in every direction you can imagine.

All three Wasco County Court members are conservative environmentalists, but we are also businessmen and keepers of the County's budget.

We feel that we must not be unduly influenced by the pressures from the true environmentalists, and we must also guard against undue influence from those who make their living from the lumber industry.

In view of all the information we have received, reviewing our County road budget, and realizing the tremendous positive influence the timber industry has on our County; Wasco County Court, on the 18th day of May, 1988, unanimously passed a recommendation calling for No Change in relation to the proposed new Forest Plan.

We strongly feel that with proper management we can have a sustained cut, clean water, adequate recreation and everyone will be happy.

Thank you for the opportunity to respond to the Mt. Hood Forest Plan.

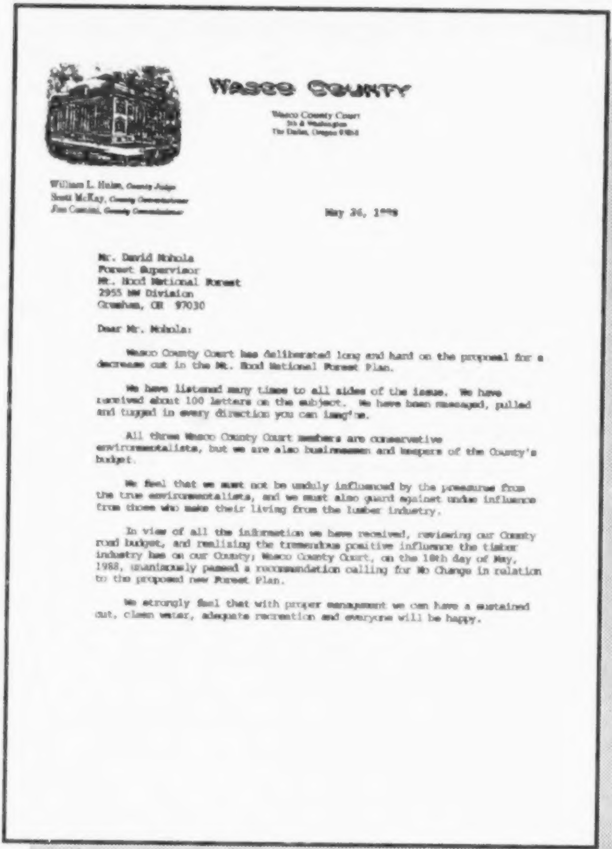
Yours very truly,

WASCO COUNTY COURT

William L. Hulse

William L. Hulse
WASCO COUNTY JUDGE

WLH:dh



WASCO COUNTY

Wasco County Court
5th & Washington
The Dalles, Oregon 97058

William L. Hulse, County Judge
Scott McKay, County Commissioner
Jim Comini, County Commissioner

May 26, 1988

Mr. David Mohola
Forest Supervisor
Mt. Hood National Forest
2955 NW Division
Gresham, OR 97030

Dear Mr. Mohola:

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We have listened many times to all sides of the issue. We have received about 100 letters on the subject. We have been massaged, pulled and tugged in every direction you can imagine.

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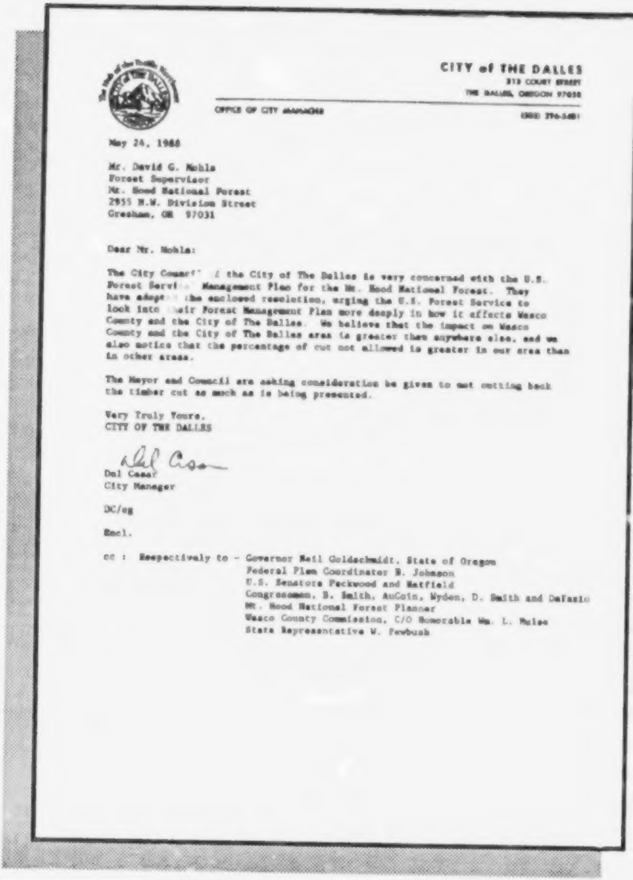

CITY of THE DALLES
313 COURT STREET
THE DALLES, OREGON 97058

OFFICE OF CITY MANAGER

(503) 296-5481

May 24, 1988

Mr. David G. Mohla
Forest Supervisor
Mt. Hood National Forest
2955 N.W. Division Street
Gresham, OR 97031

Dear Mr. Mohla:

The City Council of the City of The Dalles is very concerned with the U.S. Forest Service Management Plan for the Mt. Hood National Forest. They have adopted the enclosed resolution, urging the U.S. Forest Service to look into their Forest Management Plan more deeply in how it effects Wasco County and the City of The Dalles. We believe that the impact on Wasco County and the City of The Dalles area is greater than anywhere else, and we also notice that the percentage of cut not allowed is greater in our area than in other areas.

The Mayor and Council are asking consideration be given to not cutting back the timber cut as much as is being presented.

Very Truly Yours,
CITY OF THE DALLES

Del Caser

Del Caser
City Manager

DC/eg

Encl.

cc : Respectively to - Governor Neil Goldschmidt, State of Oregon
Federal Plan Coordinator B. Johnson
U.S. Senators Packwood and Hatfield
Congressmen, B. Smith, AuCoin, Wyden, D. Smith and DeFazio
Mt. Hood National Forest Planner
Wasco County Commission, C/O Honorable Wm. L. Hulse
State Representative W. Fawbush

RESOLUTION 88-28

A RESOLUTION URGING U.S. FOREST SERVICE REVIEW OF ITS PROPOSED MANAGEMENT PLAN FOR THE MOUNT HOOD NATIONAL FOREST

WHEREAS, The City of The Dalles has suffered through double digit unemployment from 1983 through 1987; and

WHEREAS, that unemployment rate was impacted greatly by the Northwest Aluminum plant closure in 1984, and its reopening in late 1986; and

WHEREAS, the City of The Dalles has lost over sixty one million dollars ($61,000,000) in assessed valuation since 1984 - 20% of its total; and

WHEREAS, Mountain Fir Lumber Company, a local Lumber Company, has used the Mount Hood National Forest as its historical primary source of timber; and

WHEREAS, Mountain Fir Lumber Company has been the successful bidder in 73% of the timber harvested from the Barlow and Bear Springs District of the Mount Hood National Forest during the past six years; and

WHEREAS, the proposal of the U.S. Forest Service for the Mount Hood National Forest as stated in its preferred alternative "E" for its Land and Resources Management Plan proposes to reduce the timber harvest in these two districts by amounts which could be as much 41%; and

WHEREAS, a reduction of 41% in available timber harvest could mean a loss to the local economy in the same range as the loss suffered during the recent aluminum plant closure; and

RESOLUTION 88-20

A RESOLUTION URGING U.S. FOREST SERVICE REVIEW OF ITS PROPOSED MANAGEMENT PLAN FOR THE MOUNT HOOD NATIONAL FOREST

WHEREAS, The City of The Dalles has suffered through double digit unemployment from 1983 through 1987; and

WHEREAS, that unemployment rate was impacted greatly by the Northwest Aluminum plant closure in 1984, and its reopening in late 1986; and

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WHEREAS, a reduction of 41% in available timber harvest could mean a loss to the local economy in the same range as the loss suffered during the recent aluminum plant closure; and

WHEREAS, our local economy can ill afford such a blow as we struggle to commence the long climb back from the problems of our recent past. NOW, THEREFORE,

IT IS HEREBY RESOLVED BY THE CITY COUNCIL:

Section 1. Going on Record. The City Council of the City of The Dalles go on record as strongly urging the U.S. Forest Service to review the data which led to its choice of Alternative "E" and reassess the consequences such an action would have on our local economy.

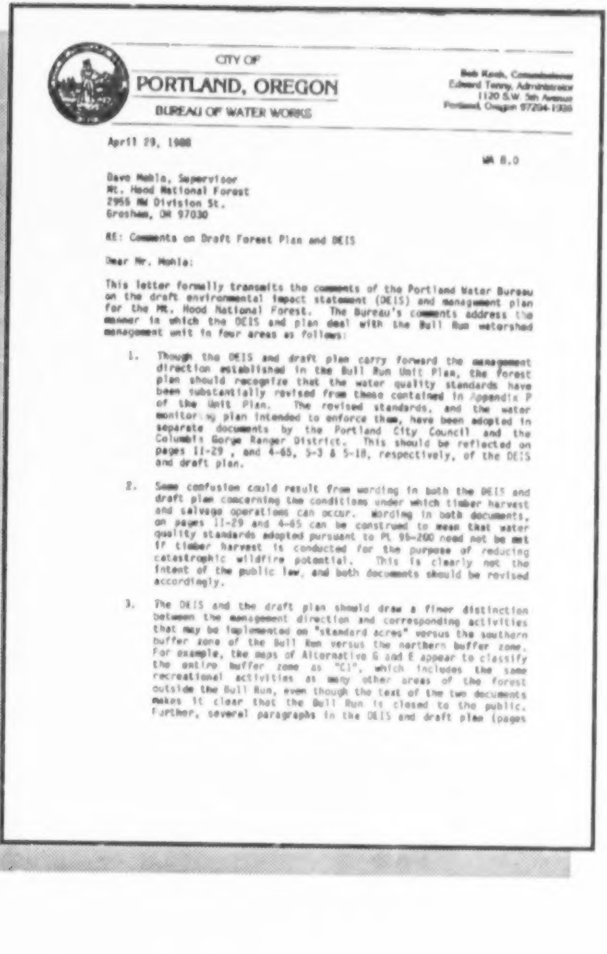
DONE AND DATED THIS 16TH DAY OF MAY, 1988.

Voting Yes, Councilmembers: PHILLIPS, CLARK, PROBSTFIELD, WILL AND SPADY
Voting No, Councilmembers: NONE
Absent, Councilmembers: NONE
Abstaining, Councilmembers: NONE

AND APPROVED BY THE MAYOR THIS 16TH DAY OF MAY, 1988.

John Mabrey
John Mabrey, Mayor

ATTEST: Jeanet Gray
Jeanet Gray
City Clerk pro tem



CITY OF
PORTLAND, OREGON
BUREAU OF WATER WORKS

Bob Koch, Commissioner
Edward Tenny, Administrator
1120 S.W. 5th Avenue
Portland, Oregon 97204-1926

April 29, 1988

WA 8.0

Dave Mohla, Supervisor
Mt. Hood National Forest
2955 NW Division St.
Gresham, OR 97030

RE: Comments on Draft Forest Plan and DEIS

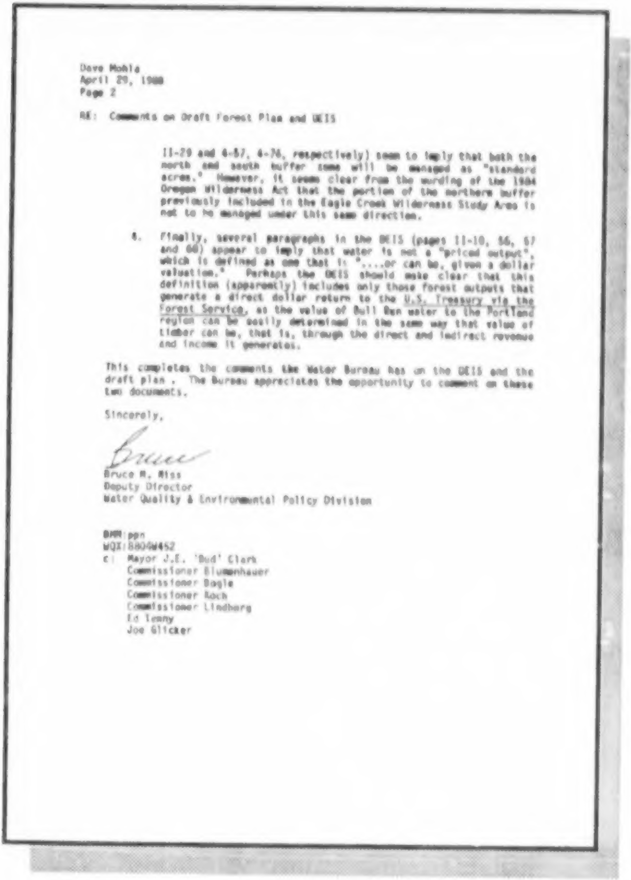
Dear Mr. Mohla:

This letter formally transmits the comments of the Portland Water Bureau on the draft environmental impact statement (DEIS) and management plan for the Mt. Hood National Forest. The Bureau's comments address the manner in which the DEIS and plan deal with the Bull Run watershed management unit in four areas as follows:

1. Though the DEIS and draft plan carry forward the management direction established in the Bull Run Unit Plan, the forest plan should recognize that the water quality standards have been substantially revised from those contained in Appendix P of the Unit Plan. The revised standards, and the water monitoring plan intended to enforce them, have been adopted in separate documents by the Portland City Council and the Columbia Gorge Ranger District. This should be reflected on pages II-29 , and 4-65, 5-3 & 5-18, respectively, of the DEIS and draft plan.

2. Some confusion could result from wording in both the DEIS and draft plan concerning the conditions under which timber harvest and salvage operations can occur. Wording in both documents, on pages II-29 and 4-65 can be construed to mean that water quality standards adopted pursuant to PL 95-200 need not be met if timber harvest is conducted for the purpose of reducing catastrophic wildfire potential. This is clearly not the intent of the public law, and both documents should be revised accordingly.

3. The DEIS and the draft plan should draw a finer distinction between the management direction and corresponding activities that may be implemented on "standard acres" versus the southern buffer zone of the Bull Run versus the northern buffer zone. For example, the maps of Alternative G and E appear to classify the entire buffer zone as "C1", which includes the same recreational activities as many other areas of the forest outside the Bull Run, even though the text of the two documents makes it clear that the Bull Run is closed to the public. Further, several paragraphs in the DEIS and draft plan (pages



Dave Mohla
April 29, 1988
Page 2

RE: Comments on Draft Forest Plan and DEIS

II-29 and 4-57, 4-76, respectively) seem to imply that both the north and south buffer zone will be managed as "standard acres." However, it seems clear from the wording of the 1984 Oregon Wilderness Act that the portion of the northern buffer previously included in the Eagle Creek Wilderness Study Area is not to be managed under this same direction.

6. Finally, several paragraphs in the DEIS (pages II-10, 56, 57 and 60) appear to imply that water is not a "priced output", which is defined as one that is "....or can be, given a dollar valuation." Perhaps the DEIS should make clear that this definition (apparently) includes only those forest outputs that generate a direct dollar return to the U.S. Treasury via the Forest Service, as the value of Bull Run water to the Portland region can be easily determined in the same way that value of timber can be, that is, through the direct and indirect revenue and income it generates.

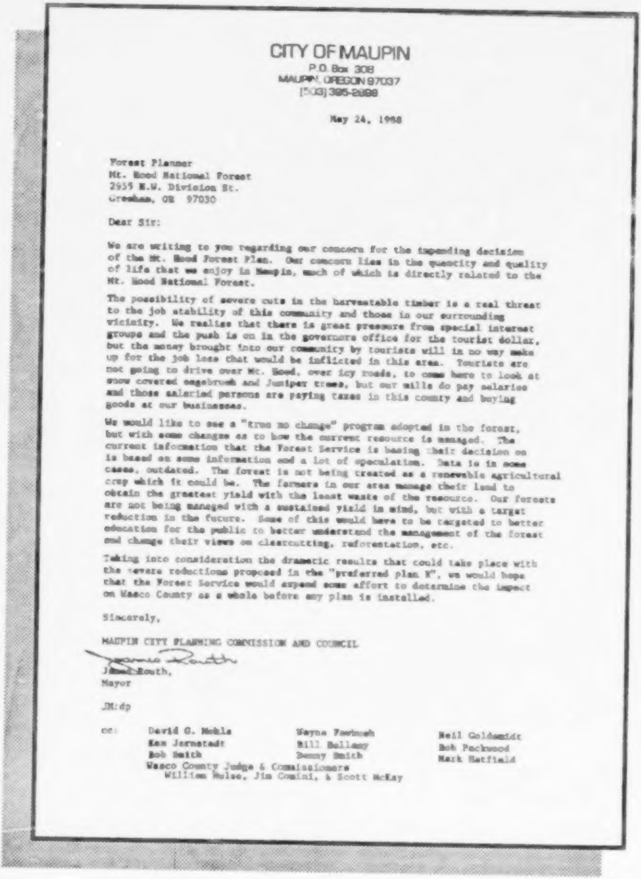
This completes the comments the Water Bureau has on the DEIS and the draft plan . The Bureau appreciates the opportunity to comment on these two documents.

Sincerely,

Bruce

Bruce M. Riss
Deputy Director
Water Quality & Environmental Policy Division

BMR:ppn
WQX:8804W452
c: Mayor J.E. 'Bud' Clark
Commissioner Blumenhauer
Commissioner Bogle
Commissioner Koch
Commissioner Lindberg
Ed Tenny
Joe Glicker



CITY OF MAUPIN
P.O. Box 308
MAUPIN, OREGON 97037
(503) 395-2698

May 24, 1988

Forest Planner
Mt. Hood National Forest
2955 N.W. Division St.
Gresham, OR 97030

Dear Sir:

We are writing to you regarding our concern for the impending decision of the Mt. Hood Forest Plan. Our concern lies in the quantity and quality of life that we enjoy in Maupin, much of which is directly related to the Mt. Hood National Forest.

The possibility of severe cuts in the harvestable timber is a real threat to the job stability of this community and those in our surrounding vicinity. We realize that there is great pressure from special interest groups and the push is on in the governors office for the tourist dollar, but the money brought into our community by tourists will in no way make up for the job loss that would be inflicted in this area. Tourists are not going to drive over Mt. Hood, over icy roads, to come here to look at snow covered sagebrush and Juniper trees, but our mills do pay salaries and those salaried persons are paying taxes in this county and buying goods at our businesses.

We would like to see a "true no change" program adopted in the forest, but with some changes as to how the current resource is managed. The current information that the Forest Service is basing their decision on is based on some information and a lot of speculation. Data is in some cases, outdated. The forest is not being treated as a renewable agricultural crop which it could be. The farmers in our area manage their land to obtain the greatest yield with the least waste of the resource. Our forests are not being managed with a sustained yield in mind, but with a target reduction in the future. Some of this would have to be targeted to better education for the public to better understand the management of the forest and change their views on clearcutting, reforestation, etc.

Taking into consideration the dramatic results that could take place with the severe reductions proposed in the "preferred plan E", we would hope that the Forest Service would expend some effort to determine the impact on Wasco County as a whole before any plan is installed.

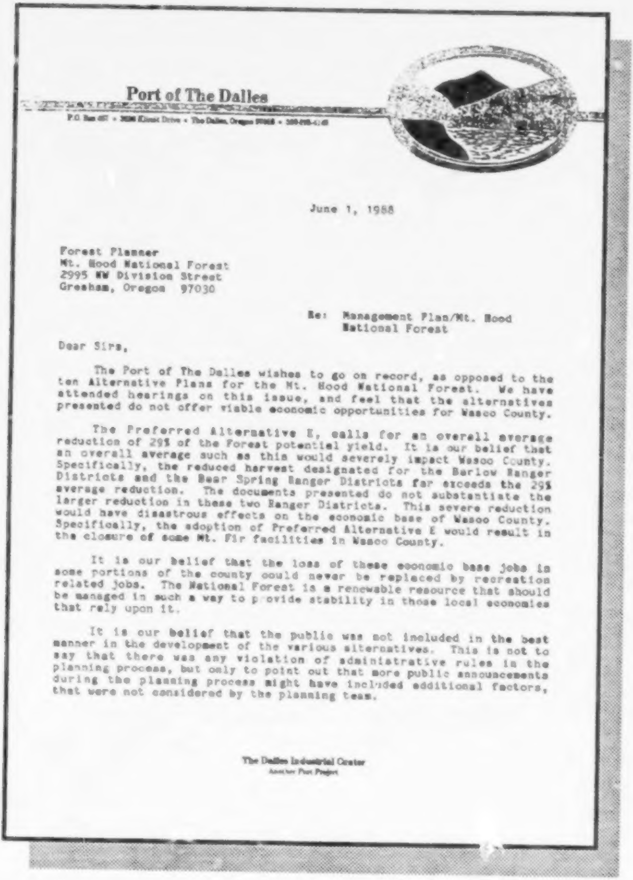
Sincerely,

MAUPIN CITY PLANNING COMMISSION AND COUNCIL

J[illegible] Routh,
Mayor

JR:dp

cc: David G. Mohla
Ken Jernstadt
Bob Smith
Wayne Fawbush
Bill Bellamy
Denny Smith
Neil Goldsmidt
Bob Packwood
Mark Hatfield
Wasco County Judge & Commissioners
William Hulse, Jim Comini, & Scott McKay



Port of The Dalles

P.O. Box [illegible] • [illegible] Drive • The Dalles, Oregon [illegible] • [illegible]

June 1, 1988

Forest Planner
Mt. Hood National Forest
2995 NW Division Street
Gresham, Oregon 97030

Re: Management Plan/Mt. Hood
National Forest

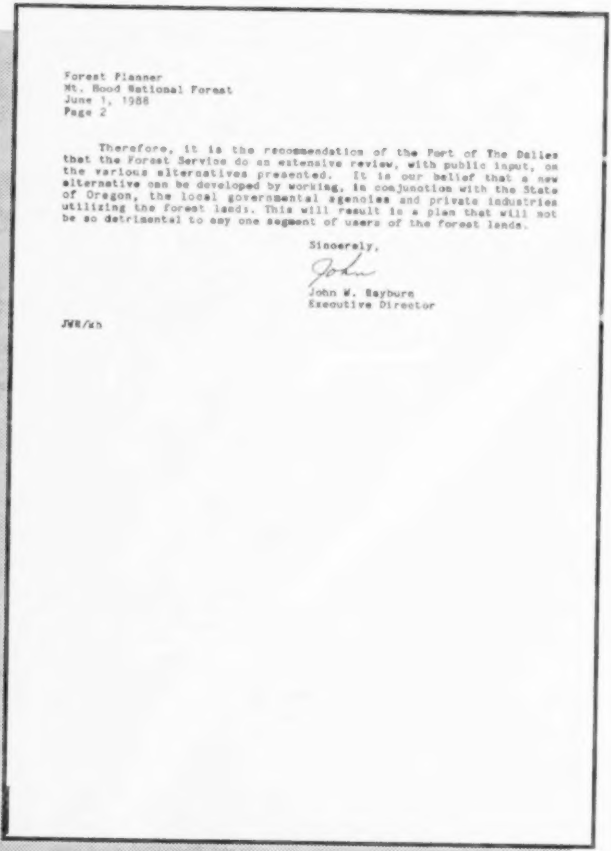
Dear Sirs,

The Port of The Dalles wishes to go on record, as opposed to the ten Alternative Plans for the Mt. Hood National Forest. We have attended hearings on this issue, and feel that the alternatives presented do not offer viable economic opportunities for Wasco County.

The Preferred Alternative E, calls for an overall average reduction of 29% of the Forest potential yield. It is our belief that an overall average such as this would severely impact Wasco County. Specifically, the reduced harvest designated for the Barlow Ranger Districts and the Bear Spring Ranger Districts far exceeds the 29% average reduction. The documents presented do not substantiate the larger reduction in these two Ranger Districts. This severe reduction would have disastrous effects on the economic base of Wasco County. Specifically, the adoption of Preferred Alternative E would result in the closure of some Mt. Fir facilities in Wasco County.

It is our belief that the loss of these economic base jobs in some portions of the county could never be replaced by recreation related jobs. The National Forest is a renewable resource that should be managed in such a way to provide stability in those local economies that rely upon it.

It is our belief that the public was not included in the best manner in the development of the various alternatives. This is not to say that there was any violation of administrative rules in the planning process, but only to point out that more public announcements during the planning process might have included additional factors, that were not considered by the planning team.



Forest Planner
Mt. Hood National Forest
June 1, 1988
Page 2

Therefore, it is the recommendation of the Port of The Dalles that the Forest Service do an extensive review, with public input, on the various alternatives presented. It is our belief that a new alternative can be developed by working, in conjunction with the State of Oregon, the local governmental agencies and private industries utilizing the forest lands. This will result in a plan that will not be so detrimental to any one segment of users of the forest lands.

Sincerely,

John

John W. Rayburn
Executive Director

JWR/kh

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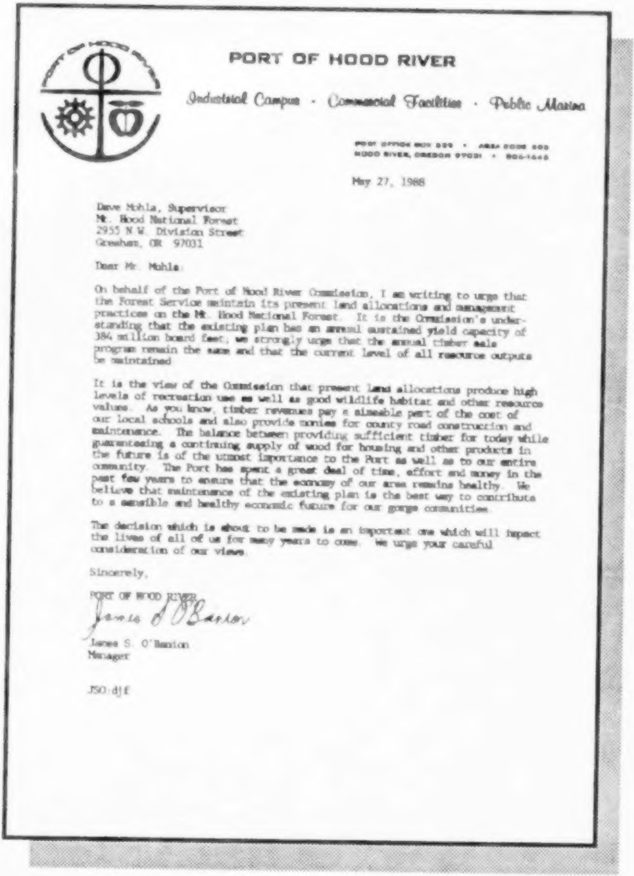

PORT OF HOOD RIVER

Industrial Campus · Commercial Facilities · Public Marina

May 27, 1988

Dave Mohla, Supervisor
Mt. Hood National Forest
2955 N.W. Division Street
Gresham, OR 97031

Dear Mr. Mohla:

On behalf of the Port of Hood River Commission, I am writing to urge that the Forest Service maintain its present land allocations and management practices on the Mt. Hood National Forest. It is the Commission's understanding that the existing plan has an annual sustained yield capacity of 384 million board feet; we strongly urge that the annual timber sale program remain the same and that the current level of all resource outputs be maintained.

It is the view of the Commission that present land allocations produce high levels of recreation use as well as good wildlife habitat and other resource values. As you know, timber revenues pay a sizeable part of the cost of our local schools and also provide monies for county road construction and maintenance. The balance between providing sufficient timber for today while guaranteeing a continuing supply of wood for housing and other products in the future is of the utmost importance to the Port as well as to our entire community. The Port has spent a great deal of time, effort and money in the past few years to ensure that the economy of our area remains healthy. We believe that maintenance of the existing plan is the best way to contribute to a sensible and healthy economic future for our gorge communities.

The decision which is about to be made is an important one which will impact the lives of all of us for many years to come. We urge your careful consideration of our views.

Sincerely,

PORT OF HOOD RIVER

James S. O'Banion

James S. O'Banion
Manager

JSO:djf